

INDEX OF AUTHORS' NAMES.

ABSTRACTS. 1880.

A.

Abney, W. W., acceleration of oxidation caused by the less refrangible end of the spectrum, 429.
— photograph of the ultra-red portion of the solar spectrum, 429.
— production of photographs exhibiting natural colours, 72.
Adam. See Grimaux.
Adamec, J., and E. Klose, new method of estimating the air-space in seeds and fruits, 189.
Adamkiewicz, A., interchange of material in the animal organism, 565.
Adler, A., products from brown-coal tar, and some derivatives of chrysene, 263.
Adlerskron. See Graebe.
Ador, E., isophthalophenone, 470.
Ador, E., and F. Meier, xylie acid, its preparation and derivatives, 252.
Alexandrowicz, W., actual state of the determination of zinc, 748.
Allary, E., titration of iodine by stable standard solutions, 285.
Allen, A. H., analytical examination of tinctures, 194.
— examination of coffee, 353.
— presence of nitrogen in iron and steel, 749.
Allen. See also Cohne.
Almen, A., chalybeate springs of Carlstad, 20.
Amato, D., and A. Capparelli, chemistry of the yew, 899.
Amato, D., and P. Figuera, gasometric methods, 345.
Ammon, G., absorptive power of soil constituents for gases, 134.
Andreae, H., nitro-orth- and nitroparaphenolts, 466.
Andreasch, R., carbamidacetosulphonic acid, 877.
— characteristic reaction of thioglycolic acid, 236.

VOL. XXXVII.

Andreasch, R., decomposition of thiohydantoin by barium hydrate, 236.
— synthesis of thiohydantoin, 877.
Andreasch. See also Maly.
Andrée, A., colouring matter of grapes and bilberries, and the artificial colouring of red wines, 927.
Andreoni, G., citric acid, 877.
Andrews, L. W., ethylene iodopercrate, 619.
v. Anrep. See Weyl.
Anschütz, R., tetrabromethanes, 98.
Anschütz, R., and A. Pictet, preparation of the ethereal salts of tartaric and racemic acids, 876.
Anschütz, R., and I. v. Siemenski, phenanthrene derivatives, 891.
Ans dell, G., physical constants of liquid hydrochloric acid, 696.
Armsby, H. P., estimation of albumin, 829.
Armstrong, H. E., action of iodine on oil of turpentine, 125.
Aronstein, L., and J. M. A. Kramps, action of ethyl iodide on ethyl iodacetate, 541.
Atterberg, A., probable occurrence of furfurane (tetraphenol) and a homologous compound in the products of the dry distillation of pine wood, 663.
Austin, A., diamylbenzene, 107.

B.

Babo, L. v., oven for heating sealed tubes, 846.
Baeyer, A., action of potassium pyrosulphate on indigo white, 46.
— compounds of phthalic acid with phenols, 650.
Baeyer, A., and O. R. Jackson, synthesis of the homologues of hydrocarbostyryl and quinoline, 406.
— — — synthesis of methylketole, an isomeride of skatole, 395.

Balbiano, L., amides and anilides of β -hydroxybutyric acid, 461.
 — some derivatives of β -chlorobutyric acid, 541.

Balbiano, L., and A. Testa, dibutyl-lactic acid and a polymeride of methacrylic acid, 871.

Balentine, W., diazo-compound of hydrazobenzenesulphonic acid, 809.

Balling, C., estimation of silver in galena, 748.

Ballo, M., constitution of camphor compounds, 50.

Balsöhn, M., synthesis of ethylbenzene from ether and benzene, 463.

Balsohn. See also Friedel.

Bandrowski, E., acetylenedicarboxylic acid, 160.

Baranetzky, J., starch-altering ferments in plants, 334.

Barbier, P., action of acetic anhydride on phenol aldehydes, 318.
 — action of acetic anhydride on some aromatic aldehydes, 468.

Barbieri. See Schulze.

Barisch, F., monobromocinnamic acids and phenylfumaric acid, 42.

Barnes, J. B., taraxacum root, 720.

Barral, J. A., nitrates in sugar-beets, 495.

Barth, M., compound of alumina with carbonic anhydride and ammonia, 791.

Bartlett, H. C., presence of arsenic in the atmosphere, 585.

Baswitz, M., diastase, 132.

Battandier, estimation of glucose, 512.

Baudrumont, A., researches on beet-root, 495.

Baudrumont, E., action of potassium permanganate on potassium cyanide, 307.

Bauer, E., on frothy fermentation, 518.

Bauer, M., crystallisation of cyanite, 614.

Baumann, E., aromatic products of the animal body, 648.
 — formation of hydroparacoumaric acid from tyrosine, 254.

Baumann, E., and F. Tiemann, potassium hydroindigotin sulphate and potassium indoxylsulphate, 475.

Baumgartner, specific heat of water, 601.

Baur. See Meyer.

Bay, H., preservation of butter, 932.

Béchamp, A., non-identity of the soluble albuminoids of crystallin with those of white of egg and serum, 815.

Béchamp, J., presence of alcohol in animal tissues during life and after death, 174.

Bechi, G. v., solubilities of some constituents of coal-tar, 258.

von der Becke, saponification of fats, 762.

Becker. See Michaelis.

Beetz, W., galvanic polarisation, 837.

Behrend, P., action of sulphonic monochloride on alcohols, 310.

Behrend, P., and A. Morgen, changes effected by fermentation in the nitrogenous constituents of sweet mash, 357.
 — — — growth of beets, 502.
 — — — influence of fermentation on the nitrogenous constituents of potato mash, 819.

Behrend, P., and others, estimation of starch in potatoes, 513.
 — — — milk analysis, 925.

Beilstein, F., dinitroparatoluidine, 635.

Beilstein, F., and L. Jawein, direct separation of manganese from iron, 61.
 — — — new method of separating manganese and iron, 289.
 — — — valuation of zinc and zinc dust, 826.

Beilstein, F., and A. Kurbatow, dinitrobenzoic acid, 471.
 — — — dinitronaphthalene, 477.

Bell, C. A., action of zinc on succinimide, 630.

Bell, J. C., iodic acid as a test for morphine, 68.

Belli. See Wallach.

Belooubek, A., preparation of propylene glycol from glycerol, 232.

Bemmelen, J. M. v., chemical composition of certain hydrated oxides, 849.
 — — — condition of alkaline phosphates in aqueous solutions, 2.

Benedikt, R., bromoxyl derivatives of benzene, 246.

Beran. See Wurster.

Berg. See Claesson.

Berger, F., aromatic guanidine compounds, 802.
 — — — orthotoluidine guanidines and their cyanogen derivatives, 244.

Bergmann. See Fresenius.

Berkhardt, N., alkaloid in *Aethusa cynapium*, 899.

Berlien, J. E., purification of spirit, 931.

Berntsen, A., action of phosphorus pentachloride and of zinc-dust on succinimide, 713.

Berthsen, A., history of phenylacetamide, 650.

Berthsen, A., and F. Szymanski, formation of diamines, 639.

Bersch, W., enamelled cast-iron vessels, 833.

Berthelot, action of hydrogen peroxide on silver oxide and metallic silver, 441.

— chemical constitution of amalgams of the alkali metals, 1.

— chemical stability of matter in sonorous vibration, 437.

— compounds of hydrogen peroxide, 602.

— copper hydride, 299.

— copper hydride: a reply to Wurtz, 299.

— decomposition of hydrogen selenide by mercury, 150.

— decomposition of potassium permanganate by hydrogen peroxide, 444.

— freezing mixtures formed by an acid and a hydrated salt, 687.

— heat of combustion of the principal gaseous hydrocarbons, 786.

— heat of formation of ammonia, 207.

— heat of formation of chloral hydrate, 293.

— heat of formation of gaseous chloral hydrate, 434.

— heat of formation of hydrocyanic acid and cyanides, 839.

— heat of formation of the oxides of nitrogen, 522.

— heat of vaporisation of sulphuric anhydride, 693.

— oxidation of gold by galvanic action, 158.

— persulphuric acid, 607.

— relation between the heat developed on solution and that developed on dilution with complex solvents, 208.

— remarks on Cochin's note relating to alcoholic fermentation, 276.

— remarks on the saccharoses, 233.

— silver sesquioxide, 441.

— some relations between the chemical mass of the elements and the heat of formation of their compounds, 688.

— thermo-chemistry of cuprous chloride, 208.

— thermo-chemistry of ethylamine and of trimethylamine, 787.

— vapour-density of iodine, &c., 846.

Berthold. See Reinke.

Bertoni, G., conversion of hydroxylamine into nitrous and nitric acids, 298.

Bertoni, G., preparation of hydroxylamine, 297.

Bertrand, A., action of titanium tetrachloride, stannic chloride, and antimony pentachloride on acetic acid and acetic anhydride, 460.

— compound of titanium tetrachloride with acetic chloride, 624.

Bertrand, M., determination of active oxygen in barium or hydrogen peroxide, 744.

Bielefeldt, M., derivatives of isodurene, 37.

Bilek, F., manuring experiments, 345.

Bimmermann, E. H., changes which starch undergoes in the animal organism, 677.

Bindschedler, R., manufacture of resorcinol and colouring-matters derived from it, 426.

— safranine, 391.

Binz, C., and H. Schultz, chemical cause of the toxicological action of arsenic, 174.

Birnbaum, K., a new salt of an iridiammonium, 13.

— peculiar changes of gas-pipes, 198.

Birnbaum, K., and J. Gaier, action of iodine on the silver salts of bibasic acids, 801.

Birnbaum, K., and M. Mahu, behaviour of calcium oxide to carbonic anhydride, 5.

Birnbaum, K., and C. Wittich, action of sulphurous anhydride on the alkaline earths, 606.

Bischof, K., magnesium and calcium compounds as refractory and depophorising materials, 831.

Bischof. See also Conrad, Liebermann, and Weyl.

Bischoff, H., colouring-matter of the Caryophyllaceæ, 413.

Bittmann, C., estimation of sugar in beet juice, 144.

Bizio, G., distribution of copper in the animal kingdom, 565.

Bizzarri. See Campani.

Blair, T., separation of phosphorus from iron, 74.

Blanchet, C., *Thapsia garganica*, 718.

Blankenhorn, A., raising vines from seed, 418.

Blankenhorn, A., and others, preparation of wine, 200.

Bleunard, A., constitution of stag's horn, 271.

— products of the decomposition of proteids, 482.

Blomstrand, C. W., titanites from Småland, 15.

Blunt, T. P., effect of light on chemical compounds, 521.

Blyth, A. W., determination of specific gravity, 572.

Boasson. See Vignan.

Bodenbender, N., manuring of beet-root, 137.

Bodenbender, H., and Ihlee, composition of ash of two kinds of beet seed, 496.

Bodewig, C., Fittica's nitrobenzoic acids, 251.

Böcker. See Oser.

Böcking, E., two new syntheses of methyl-ethyl-hydroxyacetic acid, 872.

Böhm, J., functions of vegetable ducts, 911.

Boeke, T. D., detection and estimation of arsenic, 752.

Böttlinger, C., decomposition of meso-oxalic acid by sulphuretted hydrogen, 237.

— diamidotriphenylmethane, 813.

— glyoxylic acid, 621.

— new method of preparing thioldi-lactic acid, 238.

— phlobaphene, 650.

Boisbaudran, L. de, researches on erbia, 6.

le Bon. See Cyon.

Borodin, J., distribution and functions of asparagine in the vegetable kingdom, 58.

Bouchardat, G., action of haloïd acids on isoprene. Formation of caoutchouc, 323.

— transformation of amylene and valerylene into cymene and hydrocarbons of the benzene series, 710.

Bouchut, E., digestive ferment of the juice of the fig tree, 728.

— enumeration of fat globules in milk as a test, 191.

Bourcart, R., action of ammonia on anthraquinonesulphonic acids, 263.

Bourgeois. See Verneuil.

Bourgooin, E., electrolysis of malonic acid, 462.

— preparation of malonic acid, 801.

Boussingault, dissociation of barium dioxide, 610.

Boutroux, L., fermentation of glucose, 863.

Bovet, V., antiseptic action of pyrogallol, 73.

Bowie, H. C., the proteid required by the average workman, 905.

Boymond, sodium hypophosphate, 367.

Braga, J. F., analyses of some hair dyes, 772.

Brauner, B., action of silver cyanate on isobutyl iodide, 228.

Brauner, B., constitutional changes in the molecule of the isobutyl group, 229.

Bredt, J., and R. Fittig, pyroterebic acid, 315.

Breiholz, H., amount of oil in grass seeds, and its relation to their germination, 342.

Bremer, G. J. W., inactive malic acid, 462.

Brenken, O., examination of mineral oils, 589.

Brenning, manuring of oats, 508.

Bréon, R., separation of minerals of greater density than quartz by means of fused mixtures of lead and zinc chlorides, 511.

Breslauer, M., epichlorhydrin derivatives, 29.

Bretet, H., extracts of narcotic plants, 425.

Breuer, A., and T. Zincke, compounds obtained from hydro- and iso-hydro-benzoïn by the action of dilute sulphuric acid, 116.

— — — derivatives of the quinone from the hydrocarbon $C_{16}H_{12}$, 665.

— — — oxidation of benzoic and acetic carbinols, 645.

Brieger, L., skatole, 258.

Briem, H., manuring of beet, 185.

Briem. See also Feltz.

Broockmann, K., and K. Polstorff, methylmorphine hydroxide, 408.

— — — Schützenberger's oxymorphone, 408.

Brown, H. T., and J. Heron, hydrolytic ferment of the pancreas and small intestine, 903.

Brügelmann, characteristics of the alkaline earths, and of zinc oxide, 701.

Brühl, J. W., chemical constitution of organic compounds in relation to their refractive power and density. Part II, 295, 781.

— relations between the physical properties of bodies and their chemical constitution, 293, 685.

Brunnemann, C., an azoxybenzenesulphonic acid, 807.

Brunner, analysis of mineral superphosphates and of "phosphate précipité," 576.

Bruylants, G., a new method for preparing hydriodic acid and hydrobromic acid, 89.

— essence of lavender and spike, 50.

— essence of marjoram, 50.

Bruisine. See Duvillier.

Bücking, H., crystal forms of epidote, 534.

Bullock, C., *Veratrum viride*, 170.

v. **Bulow**, experiments with artificial manures, 506.
Burgerstein, A., influence of nutritive material on the transpiration of plants, 335.
Burgoïn, E., solubility of benzoic and salicylic acids, 471.
Butlerow, A., isobutylene, 230.
Byk, S., desulphuration of guanidine thiocyanate, 311.

C.

Cahours, A., and E. **Demarçay**, the acids which are formed by the distillation of the crude fatty acids in a current of superheated steam, 540.
Cahours, A., and A. **Etard**, a bromo-derivative of nicotine, 815.
— — nicotine derivatives, 672.
Cailletet, L., compression of gaseous mixtures, 604.
Calm, A., and K. **Heumann**, substituted azobenzenes, 880.
Campani, G., and D. **Bizzarri**, butyl and isobutyl hippurates, 870.
Cannizzaro, S., analysis of four waters for Turin, 591.
Canto, E. da, influence of smoke on the development of blossom, 177.
Cantoni, G., influence of manures on the combustibility of tobacco, 417.
Canzoneri. See **Paterno**.
Capparelli. See **Amato**.
Capron, J. R., relative intensity of the spectral lines of gases, 685.
Carl, F., changes of ammonium isethionate at high temperatures, 28.
Carnelley, T., Mendeleeff's periodic law and the magnetic properties of the elements, 206.
— — vapour-density of stannous chloride, 219.
Caro. See **Graebe**.
Carsten, H. J., manuring of oats on fen lands, 185.
Casamajor, P., action of bone black on sugar solutions, 758.
— — detection of starch-sugar mechanically mixed with refined cane-sugar, 758.
— — rapid estimation of pure sugar in raw and refined commercial sugars, 64.
Cazeneuve, P., lactic fermentation, 513.
— — oxidation of formic acid and oxalic acid by ammoniacal cupric oxide, 235.
— — transformation of acetic acid into glycollic acid by cupric oxide, 32.

Cech, C. O., wild Croatian hops, 428.
Chappuis. See **Hautefeuille**.
Christy, S. B., genesis of cinnabar deposits, 221.
Chroustchoff, P., thermic study of succinic acid, 151.
Church, J. A., heat of the Comstock lode, 858.
Church. See also **Wagner**.
Ciamician, G. L., action of zinc-dust on resins, 126.
— — products of the distillation of gum ammoniac with zinc-dust, 39.
— — spectroscopic researches, 361.
Ciamician. See also **Weidel**.
Cienkowski, L., organisms in beet-sap, 334.
Claassen, T. E., phytolaccin, 412.
Claesson, P., sulphates of mono- and poly-hydric alcohols and carbohydrates, 28.
Claesson, P., and H. **Berg**, constitution of α -toluenedisulphonic acid, 889.
Claesson, P., and K. **Wallin**, toluene-monosulphonic acid, 255.
Claisen, L., test for phenylglyoxylic acid, 67.
Claisen, L., and C. M. **Thompson**, metamidophenylglyoxylic acid, 253.
Claus, A., nitrobenzoic acids, 647.
Claus, A., and C. **Cratz**, paracycnone and sulphuric acid, 632.
Claus, A., and K. **Elbs**, amarine, 881.
Claus, A., and W. **Halberstadt**, metaparadinitrobenzoic acid by nitration of paranitrobenzoic acid, 647.
Claus, A., and H. **Hansen**, orthocymene, 631.
Claus, A., and R. **Lindhorst**, action of bromine on dichlorhydrin and propylphycite, 862.
Claus, A., and T. **Stüsser**, metacycene, 632.
Claus, A., and C. **Winnel**, oxidation of dibromocymene, 632.
Clausius, R., behaviour of carbonic anhydride in relation to pressure, volume, and temperature, 691.
Clermont, P. de, and J. **Frommel**, observations on sulphur baths, 196.
Clève, P. T., derivatives of η -dichloronaphthalene, — δ -nitronaphthalene-sulphonic acid, 47.
— — erbium, 157.
— — scandium, 7.
— — two new elements in erbia, 7.
Coale. See **Remsen**.
Cochin, D., alcoholic fermentation, 276, 277.
Cohn, F., and B. **Mendelsohn**, in-

fluence of the galvanic current on bacteria, 726.

Cohne, S., and A. H. Allen, alcohol tables, 773.

Collier, P., sugar from the stems of maize and sorgho, 834.

Colson, A., estimation of sulphur in natural sulphides, 139.

Conechy, E. G. M., volatilising point of arsenic, 705.

Conen, J., derivatives of triethyl citrate, 36.

Conrad, P., constitution of antimonic acid, 94.

Conrad, M., and C. A. Bischoff, synthesis by means of ethyl malonate, 627.

Contamine. See Corenwinder.

Cooke, J. P., atomic weight of antimony, 300, 704.

Cooper. See Wanklyn.

Coppola, M., artificial production of oligist, 223.

— *Stereocaulon Vesuvianum*, 382.

Corenwinder, B., and G. Contamine, analysis of parsnips, 342.

— influence of the leaves on the production of sugar in the beet, 336.

— new process of analysing commercial potash, 286.

Cornstock, W. J., analysis of tetrahedrite from Huallanca, Peru, 220.

— analyses of some American tantalates, 531.

— chemical composition of the pitch-blende from Branchville, Conn., U.S., 530.

Cornu, A., ultra-violet limit of the spectrum at various heights, 201.

Cosack, J., carbamides derived from the isomeric toluidines, 245.

— derivatives of the toluidines, 713.

Cossa, A., and M. Zecchini, cerium tungstate, 851.

Councilor, C., fluoboric ethylene, 230.

Crafts, J. M., density of chlorine at high temperatures, 431.

— density of some gases at a high temperature, 434.

— vapour-density of iodine, 788.

— variations in the coefficient of expansion of glass, 841.

Crafts, J. M., and F. Meier, density of iodine at high temperatures, 433.

— method of measuring high temperatures, 509.

Cratz. See Claus; also Meier.

Crookes, W. G., and others, butter adulteration, 423.

Cross, C. F., chemistry of bast fibre, 667.

Cyon, C. de, and G. le Bon, physiological activity of borax, 415.

Czubata, H., chemical changes in frozen and rotten potatoes, 820.

— value of acorns as fodder, 917.

D.

Dahll, T., norwegium, 93.

Dambergis. See Gabriel.

Damm. See Staedel.

Dana, J. D., some points in lithology. II. Composition of the capillary volcanic glass of Kilauea, Hawaii, 536.

Danesi, L., action of potassium dichromate on acetic acid, 160.

Danesi. See also Funaro.

D'Arsonval, a new voltaic condenser, 521.

Daubrée, a meteorite which fell on January 31, 1879, at la Bécasse, Commune of Dun-le-Poëlier (Indre), 226.

— examination of the volcanic dust which fell at Dominica, January 4, 1880, and of the water which accompanied it, 453.

Davis, G. E., direct method of testing vitriol exits for nitrogen compounds, 746.

Davy, E. W., nitrification, 279.

Davy, M., proportion of carbonic anhydride in the air, 788.

Davy, M., and others, loss of dried substance in plants during ripening, 820.

Daw, F. R. W., emplectite, 222.

Debray, H., action of acids on alloys of rhodium with lead and zinc, 706.

Debray. See also Delville.

Debrun, E., an electro-capillary thermometer, 205.

Defresne, T., ptyalin and diastase, 330.

Degener, P., action of fused alkalis on aromatic sulphonic acids, 320.

Dehérain, P., and Nantier, development of oats, 336.

Dehmel, B., estimation of albuminoids in vegetable substances, 352.

— occurrence of a reducing substance in the urine of herbivorous animals, 332.

Dehmel. See also Weiske.

Dehnst, Liebermann.

Deininger, J., new plant for fodder, 183.

Delachanal. See Vincent.

Delafontaine, M., the new metals of gadolinium and of sumarskite, 611.

De la Motte, H., action of phosphorus pentachloride and hydriodic acid on saccharic acid, 36.

De la Rue, W., and H. Müller, elec-

tric discharge of the chloride of silver battery, 203.

Delbrück, M., rye as a material for yeast, 777.

Delbrück, M., and others, chemical changes in nitrogenous substances during fermentation, 728.

— surface fermentation of potato mash,—souring of yeast, 518.

Delesse, explosion in a coal mine due to carbonic anhydride, 220.

Delffs, H., behaviour of sulphuretted hydrogen with salts of the heavy metals, 746.

Demant, B., extractives from muscle, 726.

Demarcay, E., preparation of acetonitril, 618.

— tetrolic and oxytetrolic acids and their homologues, 625.

Demarcay. See also Cahours.

Demel, W., arsenates of zinc and cadmium, 217.

— Roussin's salt, 218.

Demole, E., constitution of dibromethylene, 158.

— partial synthesis of milk-sugar and a contribution to the synthesis of cane-sugar, 29.

Dennstedt, M., derivatives of para-bromaniline, 633.

— crystalline form of benzyl orthothioformate, 646.

Denzel, J., halogen derivatives of ethane and ethylene, 228.

Déon, P. H., neutral and inverted sugar, 100, 458.

— sugar from the date palm, 100.

Derome, P., separation of phosphoric acid from iron and alumina, 286.

Desbarres, L., passage of nutritive material in plants, 493.

Des Cloizeaux, crystalline form of magnesium, 611.

Desor, F., action of lime on solution of sugar, 834.

Destrem, A., compounds of alcohols with baryta and lime, and the products of their decomposition, 711.

Detmer, W., passage of plant material in seedlings, 335.

Deutecom, B., estimation of sulphur in pyrites, 744.

Deutsch. See Gabriel.

Deville, H. St. Claire, motion produced by the diffusion of gases and liquids, 293.

— the temperature of decomposition of vapours, 209.

Deville, H. St. Claire, and H. Debray, artificial laurite and platiniferous iron, 222.

Deville, H. St. Claire, and L. Troost, determination of high temperatures, 521, 526.

— — — vapour-densities of selenium and tellurium, 847.

Dewar, J., critical point of mixed vapours, 842.

— formation of hydrocyanic acid in the electric arc, 23.

— lowering of the freezing point of water by pressure, 845.

Dewey, F. P., Clarke's method for the separation of tin from arsenic and antimony, 289.

Dieck, E., and B. Tollens, carbohydrates from the tubers of Jerusalem artichoke, 619.

Diehl, W., volumetric estimation of lead, 752.

Dieulafait, L., existence of zinc in all primary rocks and in sea waters of all ages, 708.

— normal presence of copper in the plants which grow on primordial rocks, 494.

— occurrence of lithium in rocks, sea water, mineral waters, and saline deposits, 17.

Dircks, W., analyses of Norwegian hay, 916.

Dirvell, P., new method of separating nickel from cobalt, 287.

Ditte, A., action of the hydrazids on the sulphates of mercury, 12.

— action of metallic nitrates on nitric acid, 153, 154.

— combinations of uranium oxyfluorocompounds with fluorides of the alkali metals, 794.

— fluorine compounds of uranium, 853.

— freezing mixtures of an acid and a hydrated salt, 602.

— freezing mixtures with two crystallised salts, 784.

Dittmann. See Wolff.

Doebner, O., aromatic amido-ketones, 804.

— compounds of benzotrichloride with phenols and tertiary aromatic bases, 239, 644.

Domeyko, phosphates and borophosphates of magnesia and lime in the guano deposit of Mejillones, 446.

Donath, E., chemical technological notes, 516.

— contributions to the metallurgy and docimasy of nickel, 770.

— decomposition of arsenic and antimony compounds, 348.

— estimation of cobalt and nickel, 287.

Donath, E., method for the detection and estimation of iodine in presence of chlorine and bromine, 285.

v. Dorp. See Hoogewerff.

Dotto-Scribani, F., economical process for preparing bibasic quinine citrate, 126.

Dragendorff, formation of resin and chemistry of ethereal oils, 125.

— mannitol as a bye-product in the formation of lactic acid from cane-sugar, 100.

Draper, J. C., dark lines in the solar spectrum on the less refrangible side of G, 201.

Drechsel, E., carbamido-palladious chloride, 161.

— cyanamide, 307.

— formation of hypoxanthine from albuminoids, 672.

— galvanic experiments (platinum bases), 300.

Drechsler, G., Chili potash-saltpetre, 507.

Drechsler. See also Wagner.

Dwight, G. S., Strong's water-gas system, 930.

Dyckerhoff, R., on cement, 767.

Dünkelberg, feeding horses with flesh-meal, 57.

Dunnington, F. P., new form of instrument for the determination of specific gravity, 743.

Du Roi, P., and Kirchner, stall sampling in milk analysis, 925.

Du Roi. See also Kirchner and Schrodt.

Duvillier, E., amido-acids from α -bromocaproic acid, 543.

— compounds belonging to the creatine and creatinine groups, 897.

— new mode of forming dimethacrylic acid, 624.

Duvillier, E., and A. Buisine, action of ethyl chloride on ethylamine, 794.

— — — commercial trimethylamine, 159.

— — — formation of tetramethylammonium nitrate, 545.

E.

Eckstrand, A. G., nitronaphthoic acids, 261.

Eckstrand. See also Petterson.

Eder, J. M., a new chemical photometer, 361.

Eder, J. M., composition of pyroxylin, 372.

— estimation of ferrous oxide in presence of organic acids or sugar, 583.

— potassium-ferrous oxalate and its use for developing photographic bromide of silver plates, 590.

— rapid developer for wet plate photographs, 765.

— reducing properties of potassium ferrous oxalate, 544.

Ezardzi, C., analyses of the ash of certain spice seeds, 915.

Ehrhard, A. C., *Phytolacca decandra*, 412.

Ehrhard. See also Fischer.

Eichler, E., octyl derivatives, 229.

Eisenberg, L. J., action of ferro- and ferri-cyanic acids on amides, 231.

Eisfeld. See Wichelhaus.

Elbs. See Claus.

Elder. See Rodwell.

Emmerich, R., influence of impure water on health, 488.

Emmerling, A., carbonyl bromide, 627.

— formation of vegetable albumin, 341.

Emmerling, A., and R. Wagner, clover sickness, 505.

— — — monobromacetone and the alcohol of acetone, 867.

Emmerling, O., abietic acid, 264.

Endemann, H., boric acid as a preservative, 767.

Endemann, H., and G. A. Prochazka, detection of copper, 924.

— — — standard soda solution, 924.

— — — sweet potatoes, 915.

Engel, G., action of infusorial earth on colouring matters, 427.

Engel, R., and de Girard, method of producing acetal, 458.

Engelhorn, F., methacrylic acid, 378.

Engström, N., experiments with Laval's separator, 933.

Eppinger, O., action of ethylamine and diethylamine on acetone, 868.

Erlenmeyer, E., amidolactic acids, 713.

— constitution of phenyl-halogen propionic acid, 42.

— oxypropionic acid (oxyacrylic acid), 544.

— phenylbromolactic acid, 471.

— phenyl-lactic acids, 471.

— synthesis of substituted guanidines, 243.

Erlenmeyer, E., and A. v. Plantagenau, activity of bees, 415, 725.

Étard, A., synthesis of aromatic aldehydes: cuminaldehyde, 467.

Étard. See also Cahours.

Eugling, W., inversion of beet-sugar for wine, 833.

Eugling and others, machines for milk churning, 357.

F.

Farsky, F., growth of plants in artificial solutions, 337.

Fauconnier, A., estimation of urea, 513.

Fautrat, M., influence of forests on rain-fall, 737.

Fehlau, flesh-meal as fodder for milch cows, 501.

Feltz, E., and H. Briem, proportion of sugar to the weight of beetroots, 519.

Feuerbein, C., aromatic thiocarbonamides, 44.

Fiedler, M., fermentation of molasses, 931.

Field. See Jackson.

Figuera. See Amato.

Fileti, M., a new cumophenol, 883.

Fileti, M., and A. Riccini, decomposition of ethylamine hydrochloride by heat, 30.

Fischer, E., a new series of dye-stuffs, 474.

— furfuraldehyde, 798.

— hydrazines of the fatty series, 234.

— orthohydrazinbenzoic acid, 647.

— phenanthrenedisulphonic acid and its derivatives, 478.

Fischer, E. and O., dye-stuffs of the rosaniline group, 390.

Fischer, E., and W. Ehrhard, ethyl derivatives of phenylhydrazine, 242.

Fischer, F., adulteration and examination of food and drink, 422.

— apparatus for estimating oxygen in the atmosphere, 137.

— apparatus for measuring the heat of combustion, 1.

— burning of fuel in house stoves, 145.

— evolution of carbonic oxide from red-hot iron stoves, 592.

— investigation of lubricating oils, 778.

Fischer, O., condensation products of aldehydes with primary aromatic bases, 39.

— condensation products of tertiary aromatic bases, 40, 636.

— diamidotriphenylmethane, 661.

Fischer, O., and P. Grieff, synthesis of leucaniline, 640.

Fischer, O., and L. Roser, amidotriphenylmethane, 661.

Fischer, O., and J. Ziegler, a new triamidotriphenylmethane, 662.

Fittbogen. See Hasselbaut.

Fittig, R., new lactones, 799.

— polymerised non-saturated acids, 120.

Fittig, R., and H. Liepmann, fluoranthene, a new hydrocarbon from coal tar, 400.

Fittig, R., and others, unsaturated monobasic acids with six atoms of carbon, 375.

Fittig. See also Bredt.

Fitz, A., double salts of the lower members of the acetic acid series, 799.

— normal propyl alcohol from glycerol, 372.

— schizomyctic fermentations. Part VI, 819.

Flahault, C., formation of chlorophyll in the dark, 910.

Flawitzky, F., changes produced by hydration and dehydration in the laevorotary terpene from French turpentine oil, 402.

— hydration of terpenes, 264.

— laevorotary terebenthene from French turpentine oil, 559.

Fleischer, M., influence of the seed on the tannin of oak bark, 920.

Fleischmann, W., influence of fodder on the secretion of milk, 907.

Fleischmann, W., and P. Vieth, milk secretion, 330.

— — — observations on the milk of a large herd of cows, 487.

Fletcher, F. W., citrate of iron and quinine, 68.

Fletcher, J., examination of some County Dublin waters, 766.

— water of the River Vartry, 21.

Flicke, P., and L. Grandjeau, chemical examination of ligneous Papilionaceæ, 735.

Flight, W., analyses of two new amalgams, and of a specimen of native gold, 707.

Flückiger, effect of cold on cherry laurel, 733.

Förster, M., ethyl derivatives of orthoamidophenetol and orthamido-phenol, 463.

Forerand, ethyl nitracetate, 32.

Fouqué, F., and A. M. Lévy, artificial production of felspars containing barium, strontium, and lead, 449.

— — — artificial production of a leucitophyr, identical with the crys-

talline lavas of Vesuvius and Somma, 448.

Franchimont, A. P. N., cellulose, 159.
— glucose, 159.
— preparation of ethereal acetates, 104.
— tunicin, 233.

Frankland, E., dry fog, 439.

Fraude, G., aspidospermine, 54.
— perchloric acid as a test for alkaloids, 69.

Freda, P., artificial tannin, 122.

French, A., lead fume, and a new process of fume condensing, 146.

Fresenius, H., and F. Bergmann, electrolytic estimation of nickel and cobalt, 751.
— — — electrolytic estimation of silver, 747.

Frenzel, A., Caucasian minerals, 615.

Freyberg, E., respiratory power of marsh and water plants, 335.

Freytag, B., some derivatives of propionic acid, 312.

Fricklinger, H., estimation of starch in sausages, 826.

Friedburg, mill waste for manure, 60.

Friedel, C., and M. Balsohn, action of bromine on diphenylmethane, 558.
— — — conversion of bromostyrolene into methylphenyl ketone, 469.
— — — limited oxidation of ethylbenzene, 469.

Friedel, C., and A. Ladenburg, silicon ethyl series, 608.

Friedländer. See Tiemann.

Fritzsche, P., phenoxyacetic acid, 318.

Frölich. See Geuther.

Frommel. See Clermont.

Fruhling. See Schulze.

Funaro, A., formation of fatty matter and ripening of the olive, 568.
— salts obtained from the mother-liquors of the Volterra brine springs, 146.

Funaro, A., and L. Danesi, succinin, 463.

v. Funke. See Wolff.

G.

Gabriel, S., action of hydrocyanic acid on diazo-compounds, 41.
— derivatives of thiacetic acid, 33.

Gabriel, S., and A. K. Dambergis, nitro-derivatives of diphenylmono- and di-sulphonic acids, 890.

Gabriel, S., and A. Deutsch, sulphur derivatives of diphenyl, 476.

Gaier. See Birnbaum.

Galimberti. See Rotondi.

Galloway, W., influence of coal-dust in colliery explosions, 439.

Gantter, F., and C. Hell, suberic acid produced by oxidation, 872.

Garnier, J., malleable nickel, 930.

Gauthier, A., presence of copper in food, 490.

Gautier, A., chlorophyll, 266.
— pure methyl cyanide, 618.

Gawalowski, A., determination of sap in beet, 829.
— estimation of carbonic anhydride in gases, 573.

Gay, J., absorption of nitrogen dioxide by ferrous salts, 9.

Gayon, W., inactive glucose or neutral sugar, 458.

Geleznow, N., quantity and distribution of water in trees, 912.

Genay, P., manure experiments with wheat, 922.

Genth, F. A., uranium minerals from N. Carolina, 96.

Gerichten, E. v., constitution of phthalic chloride, 473.

Gerrard, A. W., tonga, 836.

Geuther, A., action of carbonic oxide on alkaline hydrates at high temperatures, 459.
— — — behaviour of monochlorotetracylic acid on fusion, 630.

Geuther, A., O. Frölich, and A. Loos, new synthesis of carbon acids, 622.

Ghizzoni. See Rotondi.

Giacosa, P., saliretone, 716.

Gies, C., influence of arsenic on animals, 907.

Giglioli, I., resistance of seeds to the prolonged action of chemical agents, 280.

Gilbert. See Mahrenholtz.

Gintl, W. F., water of the Ferdinandsbrunnquelle, Marienbad, Bohemia, 306.

Girard. See Engel.

Giunti, M., distribution of copper in the animal kingdom, 275.

Gladstone, J. H., and A. Tribe, aluminium iodine reaction, 861.

Godefroy, J., and others, permanent pasture a substitute for clover, 499.

Godlewski, E., causes of the change in the form of etiolated plants, 177.

Goes, B., diphenyldimidonaphthol, 399.

Goessmann, C. A., amount of sugar in sorghum, maize, and melons, 594.
— manuring of sugar-beet in America, 418.

Goldschmidt. See Reinitzer.

Gorceix, marlite from Brazil, 447.

Gore, G., thermo-electric properties of liquids, 431.

Gounard, F., associated minerals contained in certain trachytes from the ravine of Riveau Grande, 225.

Graebe, C., carbazol, 660.

— constitution of alizarin-blue, 262.

— occurrence of paraleucaniline in the manufacture of rosaniline, 162.

Graebe, C., and B. Adlerskron, some derivatives of carbazol, 660.

Graebe, C., and H. Caro, acridine, 398.

Graebe, C., and W. Knecht, phenyl-naphthylcarbazol, 168, 663.

Graebe, C., and C. Mensching, diphenic anhydride, 812.

Grandeaum, L., composition of maize, 183.

Grandeaum. See also Flické.

Greene, F. V., *Baptisia tinctoria*, 411.

Greene, W. H., aceto-benzoic anhydride, 550.

— dioxymethylene, preparation of methylene chloride, 307.

— preparation of bromobenzene and iodobenzenes, 316.

— synthesis of saligenol, 318.

Greene, W. H., and A. J. Parker, note on hyraceum, 172.

Greenish, H. G., *Nigella sativa*, 718.

Greiff, P., some new colouring-matters, 41.

— anthranilic acid from orthonitrotoluene, 648.

Grete, E. A., determination of wine-extract, 928.

Grieff. See also Fischer.

Griesmeyer, V., new clarifier for beer, 931.

Griess, P., action of cyanogen compounds on diazobenzene, 316.

— action of methyl iodide on asparagine, 315.

— a new class of ammonium compounds, 636, 637.

— creative compounds of the aromatic group, 803.

— trimethylparamidobenzenesulphonic acid, 322.

Grieshammer, O., action of bromine on cane-sugar, 795.

Grimaux, E., new derivative of the parabanic series, 105.

Grimaux, E., and P. Adam, action of bromine on dichlorhydrin, 99.

— — — action of bromine on epichlorhydrin, 457.

— — — synthesis of citric acid, 801.

Grodzky. See Krämer.

Gross, T., an experiment with sulphur, 700.

Grossmann, J., alkalimetric determination of sulphates, 744.

Groth, P., cobalt glance, 13.

— cobalt speis, 13.

— manganite, 14.

Gruber, M., influence of borax on the decomposition of albumin in the organism, 907.

Grupe, A., and B. Tollens, action of ammonium citrate on phosphates, 825.

Guaresci, I., podophyllin, 479.

Gümbel, C. W., manganese nodules from the bed of the Pacific Ocean, 16.

Gunning, J. W., vital power of schizomycetes in absence of oxygen, 277.

Gurnaud, M., light, shade, and soil studied in their influence on the growth of forest trees, 566.

Gustavson, G., reactions due to the presence of aluminium bromide and chloride, 370.

Guthzeit, M., octylic acetoacetate and its derivatives, 871.

Gutknecht, H., α -nitroso-propionic acid, 711.

Gutzeit, presence of alcohols and paraffins in plants, 914.

Gutzkow, F., preparation of soda from the sulphate by means of lime and sulphur, 592.

H.

Haas, sugar in raisins, 932.

Haberlandt, F., the most advantageous method of sowing corn, 181.

Haberlandt, G., relation of the colour of clover seed to its value, 134.

— seed production of red clover, 729.

Habermann, J., glycyrrhizin, 671.

Hager, H., specific gravities of fats, resins, &c., 70.

Halberstadt. See Claus.

Halenke, Speyer beer, 773.

Hall, L. B., and I. Remsen, oxidation-products of cymenesulphonamide, 257.

Hall. See Peckham.

Hammarsten, O., fibrinogen, 172.

— casein, and on the action of rennet, 171.

Hammer, apparatus for quick fermentation, 518.

Hammerl, H., action of water on silicon and boron fluorides; solution of cyanogen in water, 435.

Hammerl, H., specific heat of concentrated solutions of hydrochloric acid, 207.
 — specific heats of solutions of potash and soda, 435.
 Hampel, L., amount of dew on plants, 493.
 Hampel. See also Hess.
 Hanemann, J., composition of Bohemian beer-wort determined by chemico-optical processes, 189.
 — manuring of beetroot, 509.
 — natural phosphates and their value in agriculture, 506.
 — planting of sugar-beets, 502.
 — relation of yield of beet to rain and sunshine, 178.
 Hankel, W., direct transformation of radiant heat into electricity, 838.
 Hannay, J. B., artificial formation of the diamond, 707.
 Hannay, J. B., and J. Hogarth, solubility of solids in gases, 210, 693.
 Hanriot, action of sodium on epichlorhydrin, 457.
 — constitution of epichlorhydrin, 457.
 Hansen. See Claus.
 Hantzsch, A., conversion of α -naphthylamine into α -naphthylmethyl ether, 813.
 Hardtung. See Post.
 Hardy. See Regnault.
 Harnack, E., and H. Meyer, researches on the alkaloids of Jaborandi leaves, 898.
 Hartdegen, A., production of the red colour in salting meat, 80.
 Hartley, W. N., and A. K. Huntington, absorption of the ultra-violet rays by the spectra of organic substances, 430.
 — — — examination of essential oils, 201.
 Harz, C. O., certain sorts of vegetable marrow, 184.
 — comparative investigation of hops, 417.
 Hasenclever, R., effect of acid gases on vegetation, 496.
 Hasselboult, P., and J. Fittbogen, variations in the carbonic anhydride of the atmosphere, 699.
 Hassell, A. v., direct determination of soda in potashes, 580.
 Hassencamp, H., a new method of preparing methyl violet, 75.
 Haswell, A. E., Volhard's permanganate method of titrating manganese, 585.
 Hausen, E. C., influence of air on fermentation, 819.
 — lower organisms in the air, 908.
 Hautefeuille, P., a new property of vanadates, 527.
 — new silicates of aluminium and lithium, 447.
 — production of amphibole, 449.
 — simultaneous reproduction of quartz and orthoclase, 581.
 — two new silicotitanates of sodium, 531.
 Hautefeuille, P., and J. Chappuis, ozone, 847.
 Havenstein, G., behaviour of natural soils and of plants growing in them towards water, 737.
 Hazard, J., formation of soils by weathering, 449.
 Heckel, E., influence of salicylic acid and other bodies on germination, 335.
 Heddle, manganese-garnet, 856.
 Hehner, O., mineral constituents of cinnamon and cassia, 360.
 Heiden, E., nitrogen manure for oats, 741.
 Heine, K., sulphoisophthalic acid and the corresponding hydroxyisophthalic acid, 549.
 Heintz, W., diethylidenelactamidic acid, 801.
 — products of the oxidation of triacetonamine, 101.
 — triacetonamine chromates, 101.
 — — — urea platinochloride, 104.
 Heinzelmann, estimation of the value of raw material in the preparation of yeast, 833.
 Heinzerling, C., mineral tanning, 427.
 Hell, C., rate of substitution of bromine in the acetic acid series, 539.
 Hell, C., and O. Mühlhäuser, acids of the formula $C_8H_{18}O_4$ derived from bromobutyric acid, 542.
 — — — action of finely divided silver on ethyl monobromobutyrate, 542.
 Hell. See also Gantter.
 Hemilian, V., synthesis of naphthyl-diphenylmethane, 664.
 Hengefeld, G. I., effect of feeding cakes on milk-production, 725.
 Henry, L., dry distillation of sodium trichloracetate, 236.
 — — — on the addition of oxygen to unsaturated compounds, 231.
 — — — spontaneous oxidation of nitro-lactic acid, 237.
 Hensgen, C., potassium and ammonium ferric chromates, 10.
 Henshaw. See Storer.
 Hermann, F., the problem of estimating the number of isomeric paraffins of the formula C_nH_{2n+2} , 605.
 Heron. See Brown.

Hertz. See Hünefeld.

Herzen, A., influence of boric acid on acetous fermentation, 819.

Herzfeld, A., acetylation of some carbohydrates, 619.

— action of diastase on starch-paste, 310.

— malto-dextrin, 866.

Hess and L. Hampel, effect of manures on growth of larches and pines, 509.

Hesse, O., amidomethylene pyrocarboxylic acids, 248.

— Californian orcella weed, 255.

— caroba leaves, 671.

— cinchona barks, 328.

— morphine hydrochloride, 673.

— pereiro bark, 675.

— quinamine, 270.

— quinic acid, quinone, and allied compounds, 317.

Hesse. See also Jobst.

Hesz, J. J., electro brass plating, 425.

Heubel, E., action of dehydrating agents on the crystalline lens of the eye, 333.

Heumann, K., ultramarine compounds, 217, 367.

Heumann. See also Calm.

Hilger, A., analyses of minerals and rocks, 856.

— mineral constituents of the Riesling grape, 342.

Himley, C., detection of oiled wheat, 929.

Hinteregger, F., diffusion experiments with acid solutions of mixtures of salts, 89.

Hirsch, B., *Balsamum antarthriticum indicum*, 168.

Hirschsohn, E., detection of wax, 763.

Hirschwald, J., crystal system of leucite, 16.

Hjelt, E., action of ammonia on ethyl camphorates, 669.

— caryophyllin, 670.

Hjortdahl, T., piperidine salts, quinine sulphate and selenate, 54.

Hörler, H., petroleum, 199.

Hofferichter, P., synthesis of ketonic acids, 35.

Hoffmann, H., influence of annual temperature on change of colour in leaves, 910.

Hoffmeister, W., nutritive value of the *Elodea canadensis*, 500.

Hofmann, A. W., a series of aromatic bases isomerides of the thiocarbamides, 387.

— action of sulphur on phenylbenzamide, 386.

Hofmann, A. W., amidophenylmercaptans or thiohydranilines, 884.

— methylpyrogallol and the formation of pittacal, 248.

— pittacal and eupitonic acid, 164.

— transformation of methyl thiocyanate at high temperatures, 797.

Hofmeister. See Siedamgrotzky.

Hogarth. See Hannay and Mills.

Holdefleiss, F., amount of albuminoids in potatoes, 568.

— some analyses of starchmakers' residue, 595.

Holst. See Post.

Homeyer. See Liebermann.

Hoogewerff, S., and W. A. v. Dorp, behaviour of the cinchona alkaloids with potassium permanganate, 895.

— — — pyridenetricarboxylic acid from cinchona alkaloids, 406.

— — — pyridinecarboxylic acids, 405.

Hoppe-Seyler, F., active condition of oxygen induced by nascent hydrogen, 3.

— chlorophyll, 53.

— crystallised chlorophyll, 894.

Horbaczewski, products of the action of hydrochloric acid on albuminoids, 723.

Horn, W. J., phosphoric acid, 367.

Hornberger, influence of steaming on the digestibility of hay, 734.

Hornberger. See also Prehn.

Houdart and T. Petit, valuation of wine, 421.

Houzeau, A., valuation of pyrites by the gravimetric method, 583.

Howard, D., notes on cinchona bark, 177.

Hübner, H., and E. Lellmann, di-iodopropyl alcohol and moniodallyl alcohol, 538.

Hübner, H., and A. Stromeyer, nitration of paranitrobenzoic acid, 549.

Hünefeld, E. Reichardt, and Hertz, formation of nitric acid in the soil, 59.

Huntington. See Hartley.

Hussak, E., basaltic lavas of the Eifel, 19.

Hutchinson, C. C., estimation of cadmium in presence of zinc: separation of zinc, cadmium, and copper, 748.

I.

Ibled, D., method of selecting beet for seed, 134.

Ihlee. See Bodenbender.

Ingenhoes, P. H. B., existence of double salts in solution, 32.
Irby, crystallography of calcite, 530.

J.

Jackson, C. L., relative displacability of bromine in the monobromobenzyl bromides, 161.
Jackson, C. L., and A. W. Field, action of bromine on toluene and its derivatives, 878.
Jackson, C. L., and J. F. White, orthobromobenzyl compounds, 879.
——— parachlorobenzyl compounds, 878.
——— synthesis of anthracene, 262.
Jackson. See also Baeyer.
Jacobsen, O., behaviour of cymene in the animal organism, 38.
Jahn, H., action of phosphonium iodide on carbon bisulphide, 370.
——— decomposition of simple organic compounds by zinc-dust, 794.
Jahns, E., ethereal oil of *Origanum hirtum*, 112.
Jamieson, J., breathing of plants and animals, 911.
Jamieson, T., influence of soluble and insoluble phosphates as manure for turnips, 186.
Janecek, G., composition of two varieties of turnips, 917.
Janke, L., analysis of milk, 514.
Janovsky, J. V., niobite from the Isergebirge, 369.
——— some chemical constants, 365.
Jawein. See Beilstein.
Jay, estimation of urea in urine, 513.
Jenssen, C., manuring experiments with oats, 136.
Jewett, J., influence of acetic acid on the separation of iron as basic acetate from manganese, zinc, cobalt, and nickel, 289.
Jobst, J., and O. Hesse, coto-barks, and their characteristic ingredients, 325.
Jørgensen, S. M., contributions to the chemistry of the chromammonium compounds, 10.
Jolly, L., combinations of phosphoric acid in the nervous substance, 274.
——— distribution of phosphates in the muscles and tendons, 275.
Jolly, P. v., variation in the composition of the atmosphere, 85.
Jolly, P. v., and E. W. Morley, variations in the composition of the atmosphere, 698.

Jordan, O., dibrom- and tetrabrom-hydrazobenzene sulphonic acids, 808.
Joubert, J., alternating currents and the electromotive force of the electric arc, 783.
Joulie, H., and others, reduction of superphosphates, and the behaviour of phosphoric acid in soils, 571.
Joulin, L., researches on diffusion, 526.
Jourdan, F., synthesis of normal nonylic acid, and of an isomeride of palmitic acid, 313.
Julien, A. A., composition of cymato-lite from Goshen, Mass., 225.
Jungfleisch, preparation of acetylene, 456.
Jutsum, S. C., estimation of total carbon in iron and steel, 751.

K.

Kachler, J., adipic acid from camphor, 559.
Kachler, J., and F. V. Spitzer, camphocarbonic acid, 892.
——— hydrocampene, 669.
——— relations of the camphenes obtained from borneol and from camphor, 324.
Kade, R., action of chloride on dibenzyl, 46.
Kamenski. See Wallach.
Kapussttin, M., estimation of carbonic acid in the air, 420.
Karetnikoff, β -chlorobutyraldehyde, 235.
Kehlstadt, A., occurrence of free sulphur in the dry distillation of tar, 831.
Kelbe, W., a new cymene from light resin oil, 878.
——— abietic acid, 670.
Kelbe. See also Ziegler.
Kellermann. See Raumer.
Kellner, C., formation of fat in ripening cheese, 594.
Kellner, O., albumin and amido-compounds in plants, 279.
——— cleansing of lupines, 935.
——— estimation of non-albuminous nitrogen-compounds in plants, 513.
——— muscular activity and waste of tissue, 486.
——— quantitative estimation of digested protein, 563.
——— quantities of amides and albuminoids in green plants: decomposition of nitric acid and ammonia in plants, 731.
——— spent hops as fodder, 344.

Kennedy, G. W., coca, 169.

Kern, S., Bessemer steel plates, 356.

— estimation of amido-compounds, 764.

— estimation of carbon in cast steel, 289.

— some analyses of iron, 73.

— some remarks on Siemens-Martin steel, 769.

Kerr, J., electro-optic observations on various liquids, 599.

Kessler, F., atomic weight of antimony, 299.

— pentathionic acid, 298.

Kessler, M., crystallised hydrofluosilicic acid, 789.

Kienlen, P., commercial valuation of bituminous rocks and limestones, 682.

Kinch, E., agricultural chemistry in Japan, 134.

Kingzett, C. T., atmospheric oxidation of turpentine, 51.

— is ozone produced during the atmospheric oxidation of phosphorus? 3.

Kirchhoff, a manuring experiment, 923.

Kirchner, W. J., and P. du Roi, influence of ground nuts on the production of milk, 487.

Kirchner, W., and others, experiments on creaming, 75.

Kirchner. See also Du Roi.

Kjeldahl, J., diastase, 562.

Klebs, E., preservation of milk, 148.

Klein, injurious effect of peat water on meadows, 738.

— reaction of tungstates in presence of mannitol, 30.

Klein, C., felspar in the basalt from the Hohen Hagen, near Göttingen, 614.

Klein, D., borotungstates, 612.

Klein, J., constitution of deoxalic acid, 36.

Klein, O., compounds of organic bases with the haloid salts of mercury, 632.

Kleinschmidt. See Staedel.

Klenze. See Werkowitch.

Klocke, B. F., sensitiveness of alum-crystals to variations in the strength of their mother-liquors, 529.

— microscopical observations of the growth and re-solution of the alums in solution of isomorphous substances, 855.

Klose. See Adamec.

Knapp, ultramarine, 155.

Knauer, W., and others, purification of water from sugar works, 930.

Knecht, W., chloro-derivatives of carbazol, 660.

Knecht, W., vapour-density determinations in the vapours of phosphorus pentasulphide, 679.

Knecht. See also Graebe.

Knop, W., albuminoïds, 562.

Koch, A., a colouring matter containing sulphur from paraphenylenediamine, 110.

— new minerals from the andesite of Mount Arany, 616.

Köhler, H., action of antimony pentachloride on phosphorus trichloride, 613.

— chloro-derivatives of amines, 233.

— ethylamine, 159.

— synthesis of phenyl sulphochloride, 558.

König, A., estimation of retrograde phosphoric acid by ammonium citrate, 924.

König, J., adulteration of rye bran with rice husks, 200.

— analyses of marl, 60.

— estimation of oxygen dissolved in water, 421.

— injurious effect of industrial effluent water and of gases on soils and plants, 497.

— nutritive value of fruits, 733.

Koenigs, W., action of phosphorus pentachloride and oxychloride on cinchonine hydrochloride, 673.

— conversion of piperidine into pyridene, 404.

— synthesis of quinoline, 672.

Königs, E., detection of coal-gas in earth, 684.

— weighting of silk, 935.

Köth, D. v., determination of the chemical peculiarities of soils and manures requisite for them, and on the action of soluble and reduced phosphates, 418.

Kolbe, H., basicity of dithionic acid, 5.

— destructive action of wood on salicylic acid, 520.

Koaineck, T., action of fused alkaline carbonates on platinum, 581.

Krämer, G., quantitative determination of acetone in methyl alcohol, 826.

Krämer, G., and M. Grodzky, influence of constituents of wood spirit on the production of dimethylaniline, 802.

Krafft, F., lauric acid and its conversion into undecylic acid, 34.

— preparation of lauric, myristic, palmitic, and stearic aldehydes, 866.

— tridecylic, pentadecylic, and margaric acids, 34.

Kramps, J. M. A., contribution to a knowledge of the ureides, 630.

Kramps. See also Aronstein.
 Kratschmer. See Seegen.
 Krauch, C., report on the methods of estimating cellulose, and on their defects, 761.
 — unorganised ferments in plants, 175.
 — woody fibre estimation and its defects, 588.
 Kraus, C., influence of light on the growth of plants, 57.
 Kraus, F., determination of gold and silver by quartation with cadmium, 679.
 Kraut, belladonnine, 410.
 — filter-paper and filtering, 573.
 Krelage. See Rojen.
 Krestownikoff, β - chloropropaldehyde, 234.
 Krestownikoff. See also Markownikoff.
 Kretschy, M., kynuric acid, 44.
 Kreusler, M., method for the continuous measurement of the intensity of daylight and its application to physiologico-botanical investigations, 188.
 Kreusler, U., estimation of nitrogen in albuminoïds, 350.
 Kreusler, U., and others, digestibility of steamed hay, 498.
 Krieger-Delft, J., application of potatoes and undried malt in the preparation of yeast, 200.
 Krocke, adulteration of bone-meal, 354.
 Krocke, F., disease in sheep caused by lupines, 916.
 Kühn, disease in sheep caused by lupines, 916.
 Kuhara, M., method for estimating bismuth volumetrically, 753.
 Kuhlmann, F., explosion of a platinum still used for concentrating sulphuric acid, 517.
 Kurbatow. See Beilstein.

L.

Laar, C., sulphuric acid, 320.
 La Coste, W., and A. Michaelis, aromatic arsenic compounds, 396.
 Ladenburg, A., alkaloids of belladonna, datura, jusquiame and du-boisia, 561.
 — artificial alkaloids, 420.
 — duboisine, 675.
 — homatropine, 815.
 — hyoscyamine, 674.

Ladenburg, A., hyoscyamine and atropine, 674.
 — tropine, 714.
 — tropidine, 675.
 Ladenburg, A., and G. Meyer, daturine, 482.
 Ladenburg, A., and S. Rügheimer, artificial formation of tropic acid, 472.
 Ladenburg. See also Friedel.
 Ladureau, A., cultivation of sugar-beet, 736, 917.
 Laiblin, R., bromo-derivatives of nicotine, 897.
 Lamek, J., and C. Portele, experiments with various sorts of beet, 59.
 Landmann. See Michaelis.
 Landolph, F., analysis of organic compounds containing fluorine and boron, 61.
 — anethol-derivatives, 384.
 — two new hydrofluoboric acids and ethylenefluoboric acid, 28.
 Lange. See Liebermann.
 Langer, T., carbonic acid in beer, 774.
 Lassaulx, A. v., desmine, 856.
 — the eruptive rocks in the Saar and Moselle districts, 537.
 Latschinoff, P., cholecamphoric acid and its relation to cholamic acid, 722.
 — oxidation of cholic acid, 562.
 — oxidation-products of cholic acid, 56.
 Laubenheimer. See Witt.
 Lauche, manures for cabbages and fruit-trees, 506.
 Laenstein, depreciation of barley by overgrowth, 179.
 La Valle, G., crystallographic constants of some benzene derivatives, 384.
 Leclerc, M., and M. Moreau, experiments with manures, 570.
 Leeds, A. R., action of light and darkness on tannin solutions, 908.
 — action of ozone on the colouring matter of plants, 58.
 — bleaching sugar syrups by ozone, 74.
 — formation of hydrogen peroxide and ozone, 847.
 — formation of hydrogen peroxide and ozone by the action of moist phosphorus on air, 699.
 — influence of volume and temperature in the preparation of ozone: a new ozonizer, 90.
 — new methods in actino-chemistry, 837.
 — non-production of ozone in the crystallisation of iodic acid, 213.
 — oxidation of carbonic oxide by

moist air in presence of phosphorus at the ordinary temperature, 237.

Leeds, A. R., reduction of carbonic anhydride by phosphorus at ordinary temperatures, 237, 298.

— solubility of ozone in water, 213.

Lefort, J., use of Smithson's pile for the detection of mercury in mineral waters, 510.

Lehmann. See Wein.

Lehne, A., condensation of benzhydrol and naphthalene, 478.

Lelellier, A., oxidation of alcohol by an ammoniacal solution of cupric oxide, 310.

Lellmann. See Hübner.

Lemberg, J., decomposition of silicates, 503.

Lenz, W., estimation of glycerol, 757.

Lepel, F., adulteration of wine, 191.

— behaviour of fruit-juices with reagents, 354.

Letts, E. A., action of sodium on turpentine hydrochloride, 669.

— phthalein of haematoxylin, 54.

Leuckart, R., ethylcarbamide and some of its derivatives, 383.

Levallois, A., presence in the *Soja hispida* of a substance transformable into glucose, 796.

Levallois, A., and S. Meunier, crystallised calcium oxide, 700.

Lévy, A., ammonia in air and water, 848.

Lévy, L., sketch of the origin of the mineral waters of Savoy, 453.

Levy, S., and G. Schultz, chlorinated quinones, 888.

Levy. See also Fouqué.

Lewin, L., influence of glycerol on proteid tissue change, 817.

Lewis. See Storer.

Lewkowitsch, J., preparation of nitro-fatty acids, 33.

Lieben, A., analyses of four waters for Turin, 591.

Lieberman, C., and M. Voeltzkow, phenylthiocarbimide glycollide, 659.

Liebermann, C., fluorescence in the anthracene series, 665.

Liebermann, C., and A. Bischof, the third anthracene-carboxylic acid, 399.

Liebermann, C., and J. Dehnst, decomposition of oxyanthraquinone, 49.

Liebermann, C., and J. Homeyer, peculiar formation of tolane tetrachloride, 259.

Liebermann, C., and A. Lange, formulæ of thiohydantoins, 44.

Liebig, M., introduction of nitric acid into the sulphuric acid chambers along with the steam, 196.

Liebmann, A., synthesis of eumene, 384.

Liebmann. See also Wallach.

Liebschutz. See Pellet.

Liepmann. See Fittig.

Lindhorst. See Claus.

Lindo, D., mercuric oxide in grey powder, 930.

Lindström, G., thaumasite, 16.

Lionet, A., purification of hydrogen, 2.

Lipp, A., derivatives of isobutaldehyde, 620.

Lipmann, E. O. v., occurrence of tricarballylic and aconitic acids in beet-juice, 36.

— occurrence of vanillin in raw sugars, 646.

— sugar from populin, 29.

Lipmann, E., and W. Strecker, nitrocuminaldehyde and its derivatives, 251.

Lipps, J. S., malt examination, 929.

Lloyd, J. U., berberine salts, 169.

— *Yerba mausa*, 721.

Lockyer, J. N., existence of carbon in the coronal atmosphere of the sun, 429.

— experiments tending to show the non-elementary character of phosphorus, 4.

Lodge, O. J., determination of the specific electrical resistance of certain copper-tin alloys, 687.

Loew, O., lecithin and nuclein in yeast, 816.

— source of hippuric acid in the urine of herbivora, 173.

— synthesis of formic acid, 460.

Loew. See also Nägeli.

Löwig, K., preparation of sugar from sap of beetroot, 931.

Loir, a double function of monobasic acids, 31.

Lommel, E., dichroic fluorescence of magnesium platino-cyanide, 598.

Loos. See Geuther.

Losanitch, S. M., constitution of tetrantrodiphenyl carbamide, 812.

Lossen, F., guanidine, an oxidation product of albumin, 413.

Louguinine, W., heat disengaged in the combustion of some isomeric alcohols, 787.

— heats of combustion of glycerol and of ethylenic glycol, 604.

Love, E. G., edible earth from Japan, 702.

Luckow, C., application of the galvanic current to analytical chemistry, 282.

Ludwig, E., modification of Zulkowsky's apparatus for the volumetric estimation of nitrogen, 679.
 Lüders. See Otto.
 Lunge, G., composition and analysis of the binoxide of manganese recovered in the Weldon process, 528.
 — researches on nitrous acid and nitrogen tetroxide, 91.
 — researches on nitrous anhydride and nitrogen tetroxide, 440.
 Lunge, G., and H. Schäppi, formation and constitution of bleaching powder, 789.
 Lunge, H., composition and analysis of Weldon mud, 704.
 Lunge. See also Post.
 Lux, F., volumetric analysis of red lead, 585.
 Lyte, F. M., blowpipe assay of silver lead, 585.

M.

Macagno, H., analyses of air, 697.
 — tannin of sumach leaves, 732.
 Maccagno, I., tannin in wine, 775.
 Mach, E., and others, tartar and tartaric acid in must and wine, 774.
 Mactear, J., estimation of nitrous compounds in the manufacture of sulphuric acid, 745.
 Märcker, M., density of the mash, 517.
 — influence of the manure on potato disease and starch in potatoes, 915.
 — manuring beets with sodium nitrate, 741.
 — manuring experiment with sugar-beet, 923.
 — the best mode of applying artificial manure to potatoes, 824.
 Märcker, M., and E. Wein, spent hops as a fodder for cattle, 502.
 Magatti, C., oxidation of substituted phenols, 643.
 — ethylene ether of pyrogallol, 250.
 Magnier de la Source, L., colloidal ferric hydrate, 792.
 Mahrenholz and Gilbert, an azobenzenesulphonic acid, 804.
 Mahu. See Birnbaum.
 Maissen, P., preparation of camphoric acid and camphoric anhydride, 893.
 — the meteorite of Albarello, 369.
 Mallet, J. W., revision of the atomic weight and quantivalence of aluminium, 701.

Maltschewsky, aniline dithionate, 240.
 Maly, R., and R. Andreasch, nitrosothioglycollic acid, 630.
 Mann, C., detection of water in alcohol and ether, 679.
 Manoury's method of desugaring molasses, 357.
 Maquenne. See Millot.
 Marcket, W., function of respiration at different altitudes, 483.
 Marchand, C., abnormal composition of human milk, 332.
 — analysis of milk, 828.
 Marchetti, C., some naphthol derivatives, 260.
 Marek, G., damage to seed peas by weevil, 734.
 Marguerite, P., new aluminium sulphate, 792.
 Marié-Davy, carbonic acid in the air, 334.
 Markl, A., composition of grains from malt, 148.
 Markownikoff and Krestownikoff, homoisaconic acid, 238.
 Marquardt, F. W., malt combings a source of yeast, 518.
 Martin, K., hemihedry of the diamond, 854.
 Maseart, atmospheric electricity, 783.
 Masing, E., comparative examination of the most important kinds of commercial gum arabic, 827.
 Masino, F., compounds of the myristic series, 460.
 Masino. See also Schiff.
 Matthieu, A., comparative rainfall on woods and fields, 737.
 Maumené, E. J., compounds of hydrazids with ammonia, 4.
 — fermentation of glucose, 863.
 — oxygen acids of sulphur, 5.
 Maumené, Cail, and Co., patent process for preparing inverted sugar, 425.
 Maxwell, T., paranitrophenylacetic acid, 119.
 Mayer, A., combustibility of, and amount of chlorine in manured tobacco, 417.
 — examination of dog biscuit, 836.
 — influence of oxygen on fermentation, 908.
 Mayer, A., and F. Clausnitzer, a new skimming process, 933.
 Mazzara, G., hydroxyazobenzene and paramethyl-hydroxyazobenzene, 163.
 — metamidocinnamic acid, 163.
 — paraethylmethyl-phenol, 882.
 — tetrabromodibenzylparadimethyl-phenylamine, 879.

Mazzara, G., tolylphenol, 161.
 Medicus, L., and S. Scherer, testing butter, 587.
 Mehu, C., estimation of urea by sodium hypobromite, 681.
 Meier, F., and J. M. Crafts, vapour-density of iodine, 606.
 Meier. See also Ador and Crafts.
 Meissl, E., analysis of butter, 828.
 Meldola, R., action of nitrosodimethyl-aniline on phenols which do not contain the methyl groups, 162.
 — colouring matters from phenols, 881.
 — di- and tri-derivatives of naphthalene, 260.
 Melikoff, P., action of hypochlorous acid on acrylic acid, 160.
 — amidolactic acid, 800.
 — β -bromolactic acid, 800.
 — constitution of liquid chlorolactic acid and of oxyacrylic acid, 800.
 — hydroxyacrylic acid, 626.
 Mendelsohn. See Cohn.
 Menozzi. See Muzzo.
 Mensching, C., nitration of salicylanilide, 556.
 Mensching. See also Graebe.
 Menschutkin, N., etherification of unsaturated monobasic acids, 375.
 — structure of sorbic and hydroisorbic acids, 382.
 Merling, G., lithium phosphates, 581.
 Merz, V., and J. Tibirića, synthetical formation of formic acid, 374.
 Merz, V., and W. Weith, substitution in the phenyl group, 813.
 Merz, V., and G. Zetter, resorcinol and orcinol derivatives, 113.
 Meunier, S., artificial production of spinel and corundum, 447.
 Meunier. See also Levallois.
 Meyer, bone-meal as a manure for potatoes, 739.
 Meyer, C. F., contribution to the knowledge of reduced phosphoric acid, 574.
 — retrogradation of superphosphates containing iron and aluminium, 703.
 Meyer, E. v., cyanethine, 31.
 Meyer, L., history of periodic atomicity, 605.
 — Meyer's vapour-density determinations, 824.
 Meyer, R., behaviour of hæmatoxylin on destructive distillation, 248.
 Meyer, R., and A. Baur, hydroxylation by direct oxidation, 165.
 Meyer, V., behaviour of iodine at high temperatures, 433.
 — calorimetical temperature determinations, 434.
 Meyer, V., density of iodine vapour, 696.
 — observations on vapour-densities, 433.
 — vapour-density of iodine, 788.
 — vapour-densities of the alkali-metals, 434.
 Meyer, V. and C., behaviour of chlorine at high temperatures, 214.
 Meyer, V., and H. Züblin, behaviour of chlorine at high temperatures, 432.
 — — density of bromine at high temperatures, 432.
 — — determination of the density of vapours which attack porcelain at a red heat, 149.
 — — platinic bromide, 445.
 — — volatile metallic chlorides, 604.
 Meyer. See also Harnack, Ladenburg, Pagel, Micheler, and Reinecke.
 Michaelis, A., and P. Becker, monophenylboron chloride, 395.
 Michaelis, A., and B. Landmann, constitution of selenious acid, 607.
 Michaelis, A., and C. Panek, homologues of phosphenyl chloride, 640.
 Michaelis. See also La Coste.
 Michler, W., and K. Meyer, action of sulphonic chloride on amines, 108.
 Michler, W., and F. Salethé, action of sulphonic chlorides on amines, 108.
 Miflet, bacteria in the atmosphere, 727.
 Miller, O., products of the dry distillation of calcium phthalate, 255.
 Miller, W. v., a new colouring-matter, 559.
 — Biebrich scarlet, 813.
 — hydroxethylmethylacetic acid, 34.
 — hydroxyisobutylformic acid, 34.
 — hydroxyvaleric acids and angelic acid, 314.
 — rouge Français, 664.
 — supplementary notice on new colouring-matters, 640.
 Millot, A., dicalcium phosphate, 442.
 — synthesis of ulmic substances, 482.
 Millot, A., and Maquenne, fermentation of beetroot sap obtained by diffusion, 931.
 — — fermentations produced in preparing syrups from beet-juice by diffusion, 519.
 Mills, E. J., chemical repulsion, 693.
 Mills, E. J., and J. Hogarth, researches on chemical equivalence. Part II, hydrogen chloride and sulphate, 438.
 — — — researches on lactin, 458.

Mills, E. J., and T. W. Walton, researches on chemical equivalence. Part I, sodium and potassium sulphates, 437.

Miquel, P., atmospheric bacteria, 727. — *Bacillus urea*, 133.

— fermentation accompanied by formation of hydrogen sulphide, 132.

Mixter, W. G., ethylenediamine silver sulphate, 234.

Moeller, J., free carbonic anhydride in soils, 505.

— linaloës wood, 428.

— “mogdad” coffee, 936.

— primavera-wood, 596.

Mohr, C., volumetric determination of phosphoric acid by means of uranium in the presence of iron, 575.

Moissan, H., absorption of oxygen and expiration of carbonic anhydride by plants, 416.

— action of chlorine on chromium sesquioxide, 793.

— sulphides and selenides of chromium, 527.

Mondesir, P. de, comparison of the curves of the tensions of saturated vapours, 435.

— variation in the tension of vapour emitted above and below the point of fusion, 605.

Morawski, T., glycerin cement, 428.

Moreau. See Leclerc.

Morgen. See Behrend.

Moritz, J., mode of action of sulphur as a remedy against vine disease, 281.

Morley, E. W., possible cause of variation of the proportion of oxygen in the air, 90.

Morley, H. F., action of nitrous acid on mono- and di-ethylenediphenyldiamine, 112.

Morley, H. G., propylneurine, 877.

Morley. See also Jolly and Wurster.

Moser, J., composition of the kernels and husks of the seed of *Gleditschia glabra*, 133.

— feeding value of some manufacturers' waste, 183.

— manuring of sugar-beet, 185.

— on various manures, 344.

Moser, J., and others, analyses of sugar, 519.

Moser, J., and F. Soxhlet, analyses of milk, 520.

Mouchot, A., industrial utilisation of solar heat, 765.

Muck, F., determination of ash in coal, 590.

— removal of large quantities of sodium chloride in mineral analyses, 580.

Mühlhäuser, O., orthanisidine, 641.

Mühlhäuser. See also Hell.

Müller, A., oxalic acid in beet leaves, 733.

— valuation of copper for roofing, 826.

— water analysis, 139.

Müller, K., cultivation of beet seeds, 920.

Müller. See also De la Rue and Peters.

Müller-Erzbach, W., luminosity of phosphorus, 298.

— reduction of metallic oxides by hydrogen, 298.

Müller-Thurgau, H., locality of albumin secretion in plants, 492.

Muntz. See Schloessing.

Musso, G., and F. Schmidt, presence of sulphuric acid in milk, 423.

Muzzo, G., and C. Menozzi, milk albumin and curd formation, 900.

Mylius, E., opium testing, 829.

N.

Naccari, A., and S. Pagliani, absorption of gases by liquids, 525.

Nägeli, C. v., and O. Loew, formation of fat in the growth of fungi, 337.

Nantier. See Dehérain.

Natanson, S., Fittica's fourth nitrophenol, 463.

Naudin, C., influence of atmospheric electricity on the growth of plants, 909.

Naumann, A., dissociation of iodine vapour, 696.

— relation between molecular weight and density of gases, 525.

Naylor, W. A. H., volumetric estimation of arsenic acid, 421.

Neale, A. T., two azotoluenesulphonic acids, 806.

Negri, A. de, improvement of Italian tobacco by permeating the leaves with the juice of exotic tobacco, 200.

Negri, A. and G. de, colouring-matter of anguria and colycynth, 267.

Nencki, M., empirical formula of skatole, 167.

Nencki M., and F. Schaffer, chemical composition of bacteria, 176.

Nerlinger, T., employment of peat as manure, 506.

Nessler, J., determination of wine extract, 515.

Nessler, J., foreign colouring-matters in red wine, 191.
 — liquid for the preservation of botanical specimens, 596.
 Nessler, J., and H. Wachter, free tartaric acid in wine, 775.
 Ney, O., influence of light on beer, 200.
 Niaudet, A., new galvanic couple, 149.
 Nichols, W. R., deterioration of library bindings, 836.
 Nickels, B., detection of cotton-seed oil in olive oil, 925.
 — use of the polariscope in testing crude anthraquinone for anthracene, 292.
 — use of the spectroscope in discriminating anthracenes, 757.
 Niederstadt, analysis of beer, 833.
 Niederstadt, B. C., guano from the island of Ichaboe, 506.
 — on explosives for blasting, especially nitroglycerol, 595.
 Nietzki, R., colouring matters obtained by the action of naphthol on diazo-azobenzene, 664.
 — formula of quinhydrone, 247.
 — tolylenediamines, 162.
 — xylene derivatives, 552.
 Nilson, L. F., atomic weight and characteristic salts of scandium, 850.
 — atomic weight and characteristic salts of ytterbium, 703.
 Nilson, L. F., and O. Pettersson, atomic weight of glucinum, 850.
 — — molecular heats and molecular volumes of the rare earths and their salts, 838.
 — — specific heat and atomic weight of glucinum, 792.
 Nivet, reactions between calcium carbonate and ammoniacal salts, 700.
 Nördlinger, sap of trees and specific gravity of their wood, 912.
 Nolte, R., estimation of chlorine in grain and in forage, 285.
 Nöltig. See Reverdin.
 Nordenskiöld, A. E., two remarkable meteors observed in Sweden, 859.
 Nordström, T., vanadite, 15.
 Nowak. See Seegen.

0.

Oberlin and Schlagenhauffen, alkaloids of *Alstonia constricta*, 127.
 Ogier, J., a new hydride of silicon, 298.
 — combinations of phosphine with the haloid acids, 150.

Oglialoro, A., paramethoxyphenyl-cinnamic acid and methoxystilbene, 253.
 — synthesis of phenylcoumarin, 164.
 Ohl, W., electrolytic estimation of cobalt, nickel, and copper, 583.
 Ohm, B., observations on milk, 828.
 Oppenheim, H., influence of the supply of water, the secretion of sweat and muscular labour on the elimination of nitrogenous decomposition-products, 818.
 Orth, absorption of ammonia by the soil, 737.
 Oser, J., and F. Böcker, condensation-products of gallic acid, 394.
 Ossikovszky, J., constitution of tyrosin and skatole, 473.
 — formation of cinnamic aldehyde during fibrin-pancreas digestion, 469.
 Ost, H., formation of parahydroxybenzoic acid from sodium phenate, 43.
 Otto, R., action of sulphuric acid on aromatic sulphhydrates, 810.
 — Beckurt's toluenemetasulphonic acid, 810.
 — behaviour of mercury and lead ethyl mercaptides at high temperatures, 796.
 — constitution of the sulphinic acids, 810.
 — synthesis of ethereal salts of thiosulphonates, 812.
 Otto, R., and R. Lüders, benzyl derivatives containing sulphur, 811.

P.

Pabst, J. A., preparation of ethyl acetate, 541.
 Paetow, sowing broadcast or in drills, 922.
 Pagel, A., and H. Meyer, manure experiments with rye, wheat, and oats, 738.
 Pagliani. See Naccari.
 Pagnoul, A., formation of nitrates in sugar-beets, 494.
 Panebianco, R., crystalline form of nitrosothymol, lapachic acid and eumic acid, 548.
 — crystalline form of some aromatic compounds, 105.
 Panek. See Michaelis.
 Papasogli, G., detection of cobalt and nickel in presence of each other, 286.

Parker, R. H., action of potassium chlorate on ferrous iodide, 704.
 — estimation of ferrous iodide, 749.

Parker. See also Greene.

Parodi, D., tayuya, 721.

Parsons, H. B., proximate analysis of plants, 754.

Pasqualini, A., effect of gypsum on the quantity and quality of clover crops, 185.

Passavant, S. C., nitrites from hydrocyanic acid and aldehyde ammonia, 313.

Paternò, E., chemical constituents of *Stereocaulon vesuvianum*, 551.
 — lapachic acid, 267.

Paternò, E., and F. Canzoneri, derivatives of natural and synthetical thymol, 883.
 — — — products of the oxidation of the ethers of thymol, 246.

Paternò, E., and P. Spica, cymene from cumic alcohol, 106.
 — — — cymenecarboxylic acid, 163.

Pauchon, E., tension of the vapour of saline solutions, 211.

Paulsen, W., action of different manures on the yield of potatoes, 187.

Pauly, M., direct decomposition of sugar-lime, 931.

Pavy, F. W., physiology of sugar in relation to the blood, 486.
 — volumetric estimation of sugar by an ammoniacal copper test, giving reduction without precipitation, 512.

Pawel, O., Roussin's salt, 217, 218.

Pawlowski, B., the speed of reactions, 438.

Paykull, S. R., zirconium derivatives, 6.

Peckham, S. F., and C. W. Hall, lintonite and other forms of thomsonite, 535.

Peckmann, H. v., constitution of anthraquinone, 323.

Peckolt, J., *Carica papaya* and papayalin, 128.

Pedler, A., and others, cobra poison, 490.

Peirce, B. O., emission spectra of haloid mercury compounds, 81.

Peirce. See also Smith.

Pekelharing, C. A., peptone, 901.

Peligot, E., compound of levulose with lime, 539.
 — saccharin, 620.
 — some properties of glucose, 232.

Pellegrini, N., analysis of chrysocolla from Chile, 97.
 — physico-chemical analyses of clay soils, 511.

Pellet, H., ash of beet, 922.

Pellet, H., beet residues as fodder, 734.
 — certain properties of bone charcoal, 834.
 — distribution of potassium nitrate in the beet, 733.
 — estimation of organic nitrogen in natural waters, 62.
 — existence of ammonia in vegetables, 568.
 — relation between the starch, phosphoric acid, and mineral constituents of the potato, 912.
 — relation between the sugar and mineral and nitrogenous matters in normal beetroot and in beetroot run to seed, 569.

Pellet, H., and M. Liebschutz, analysis of beet seed, 920.

Penfield, S. L., chemical composition of amblygonite, 530.
 — composition of amblygonite, 96.

Perger, H. R. v., amidanthraquinone from anthraquinonesulphonic acid, 49.

Perl, L., absorption of lime salts, 725.

Peroni. See Schiapparelli.

Personne, M., constitution and properties of dialysed iron, 356.

Petermann, A., composition of fowl's dung, 345.
 — germinating power of beetroot seeds, 177.
 — Norwegian phosphorite, 356.
 — — — on Belgian phosphorites, 198.
 — — — report on the agricultural value of the so-called retrograde phosphoric acid, 739.

Petermann, A., and others, agricultural value of reduced and insoluble phosphates, 571.

Peters, P., and K. Müller, analysis of a calculus from a horse, 174.

Petit, A., testing of pepsin, 424.

Petit. See also Houdart.

Pettersson, O., and G. Eckstrand Meyer's method of determining vapour-densities, 841.
 — — — vapour-densities of anhydrous and hydrated formic and acetic acids, 868.

Pettersson. See also Nilson.

Pfeiffer, E., pentahydrated calcium carbonate, 789.

Pflüger, E., quantitative estimation of urea, 681.

Philipp, J., solidifying point of bromine, 215.

Philipp, J., and P. Schwebel, tungsten bronze, 157.

Phipson, T. L., characin, 53.
 — notes on some analyses of waters, 62.

Phipson, T. L., palmellin and characin extracted from algae by water, 325.
 — preservation of solutions of palmellin, 720.

Picard, J., modification of V. Meyer's vapour-density apparatus, 743.

Piccini, A., testing for nitric acid in presence of nitrous acid, 139.

Pictet. See Anchütz.

Pinner, A., allyl cyanide and the products of its saponification, 99.

Pitkin, L., compound platinates and a new platino-potassium salt, 706.

Piutti, A., action of phosphorous pentachloride on molybdic anhydride, 219.

Planchud, E., formation of sulphureted mineral waters, 709.

Planta-Reichenau. See Erlenmeyer.

Pluchet, Chili saltpetre for beets, 741.

Podwyszotzky, emetine, 720.

Poleck, T., water of the Oberbrunnen, Flinsberg, Silesia, 226.

Polis, A., cubic alum and chrome alum, 444.

Pollacci, E., new method of ascertaining the ripeness of grapes, 352.

Polstorff, K., action of benzoic chloride on morphine, 407.
 — action of potassium ferricyanide on methylmorphine iodide, 409.
 — action of potassium ferricyanide on morphine, 408.

Polstorff. See also Broockmann.

Pooley, T. A., analysis and composition of English beers, 353.

Portele, C., researches on the ripening of grapes and fruits, 178.
 — ripening of grapes, 336.

Portele. See also La mek.

Posen, E., phenylactimide, 322.

Post, J., action of sulphuric acid on phosphates, especially calcium phosphate, in connection with the manufacture of superphosphates, 425.
 — composition of the Weldon "manganese mud" and some similar compounds, 219, 368.
 — influence of nitro- and amido-groups on a sulphonate group entering the benzene molecule, 238.
 — spontaneous oxidation of manganese oxide with reference to the manganese recovery process, 73, 368.

Post, J., and E. Hardtung, sulphonate acids from isomeric nitramido- and diamido-benzenes, 394.

Post, J., and L. Holst, benzamido-phenolsulphonic acid, 642.

Post, J., and G. Lunge, composition of Weldon mud, 611.

Potolitzin, A., limits and velocities of chemical reactions, 365.
 — mutual replacement of the halogens, 365.

Pott, R., growth of legumes, 567.

Praetorius-Seidler, G., cyanimide, 370.

Precht, H., estimation of potassium as platinochloride, 577.
 — volumetric estimation of sulphates, 576.

Prehn, A., and R. Hornberger, estimation of the Will and Varrentrap method of nitrogen determination, 348.

Preis, K., and B. Rayman, certain dichromates, 444.

Preis. See also Rayman.

Prendel, R., the meteorite of Vavilovka, 20.

Prescott, A. B., morphometric processes for opium, 191.
 — potassium and sodium aluminates, 843.
 — silver ammonium oxide, 852.
 — valuation of tincture of opium, 193.
 — zinc oxide in alkaline solution, 852.

Preusse, C., supposed presence of pyrocatechol in plants, 417.

Preusse. See also Tiemann.

Pringsheim, chlorophyll, 560.
 — hypochlorin and its origin, 671.

Priwoznik, E., lead analyses, 772.

Prochazka. See Endemann.

Proctor, B. S., smoke of an electric lamp, 81.

Prunier, adulteration of coffee with chicory, 514.

Putte, P., germination of beet seeds, 730.

R

Rabuteau, C., influence of ethyl iodide on germination, 915.

Rammelsberg, C., vesrium and norwegium, 611.
 — the mica group, 224, 614.

Raoult, F. M., freezing point of alcoholic liquids, 523.

Rath, G. v., crystal system of cyanite, 534.
 — pseudomorphs of calcite after aragonite, 15.

Rauamer, E. v., and C. Kellermann, lime in plant life, 568.

Raymann, B., and K. Preis, action of iodine on aromatic compounds with long side chains, 463.

Raymann. See also Preis.

Redwood, T., diffusive properties of some preparations of iron, 768.

Regel, E., on two varieties of the *Drosera*, 820.

Regnault, J., and E. Hardy, action of bleaching powder on propyl, butyl, and amyl alcohol, 456.

Regnier, E., constant and powerful voltaic pile, 686.

Reichardt, E., action of water on lead piping, 198.

— investigation of the composition of soil from a graveyard, 920.

— purification of refuse water, 830.

— wild and cultivated raspberries, 936.

Reichardt, E., and others, decomposition-products of sugar, 864.

Reichardt. See also Hünefeld.

Reiche, H. v., two azobenzenedisulphonic acids, 805.

Reichl, C., new class of phenol colours, 426.

Reinecke, and G. Meyer, estimation of the decolorising power of animal charcoal, 422.

Reinitzer, B., and H. Goldschmidt, action of certain metals and non-metals on phosphorus oxychloride, 609.

Reinke, J., and G. Berthold, dry and wet rot in potatoes, 416.

Reiset, J., proportion of carbonic anhydride in the air, 605.

Rémont, A., analysis of heavy mineral, resin, and fatty oils, and of resin in commercial oils. Part I, 683.

Remont. See also Riche.

Remsen, I., oxidation of sulphanime-metatoluic acid, 473.

Remsen, I., and R. D. Coale, anhydro-sulphonamideisophthalic acid, 258.

Remsen. See also Hall.

Renard, A., electrolysis of benzene, 802.

— electrolysis of terebenthene, 479.

— oxidation of alcohols by electrolysis, 24.

— products of the distillation of colophony, 893.

Renk, F., permeability of soil for air, 821.

Renner. See Zulkowski.

Rennie. See Wright.

Reverdin, F., and E. Nölting, the α - and β -positions in naphthalene, 379.

Reymann, S., a product obtained by the action of aqua regia on orcinol, 645.

Reynaud, H., estimation of glycerol in wine, 512.

Rhalis, M., orthobromobenzoic acid, 118.

Ricciardi, L., composition of the ashes of the trunk, leaves, and fruit of the orange and mandarin orange, 915.

Ricciini. See Fileti.

Richard, A., bases of the pyridene series, 480.

Riche, A., waters of Bourboule, 455.

Riche, A., and A. Remont, *Bassia longifolia*, 519.

Richter, V. v., action of nitric acid on epichlorhydrin, 32.

— synthesis of the closed benzene ring, 37.

Richter, W., adulteration of malt combings, 777.

Rieckmann and Thomson, ammonia from the nitrogen of the atmosphere and the hydrogen of water, 767.

Ridolfi, L., manuring of field beans, 569.

Riebe, A., experiments on various kinds of yeast, 833.

Riedel, C., constitution of nitrosodimethylmetatoluidine, 386.

Riedel. See also Wurster.

Riegler, W., permeation of vegetable matter by water, 823.

Riemsdijk, A. D. v., flashing in assays of gold, 693.

— influence of superfusion on the molecular arrangement of cupelled gold, 773.

Riess, E. R., composition of eclogite, 16.

Rilliet. See Soret.

Rimpau, W., fertilisation of rye, 493.

Ritter, cotton seed cake as fodder, 500.

Ritthausen, H., albuminoïds of various oily seeds, 676.

Rjabinin, methyl and ethyl ethers of diallylcarbinol, 372.

Roberts, W. B., action of lime on silica in mortar, 216.

Roberts, W. C., analogy between the conductivity for heat and the induction balance effect of copper-tin alloys, 687.

Rocholl, H., separation of silicic anhydride in the analysis of limestone, iron ores, and other minerals, 745.

Rocques, X., action of water on zinc and lead, 766.

Rodiczky, E. v., culture of the lentil vetch, 500.

Rodwell, G. F., and H. M. Elder,

effect of heat on mercury dioxide, 443.

Röhr, production of sugar from starch, 932.

Roemer. See Schunck.

Rösch. See Wein.

Rössler, C., use of copper phosphide in the refining of copper, 197.

— volumetric estimation of manganese and cobalt, 347.

Rogalski, analyses of chlorophyll, 561.

Rogen, A. E. v., experiments on the growth of hyacinths, 922.

Rogen, A. E. v., and Krelage, mineral constituents of hyacinths, 58.

Rohn. See Wagner.

Rosenberg, J. O., nitrosothioferrates, 9.

Rosenfeld, M., lecture experiments, 846.

— two new basic copper chromates, 853.

Rosenstiehl, A., constitution of rosaniline salts, 553.

Rosenthal, I., specific heat of animal tissues, 483.

Roser. See Fischer and Wurster.

Rosicki, J., resorcinol-isosuccinic, 385.

Ross, W. A., new blowpipe test for phosphoric acid, 746.

Rossetti, F., thermal absorption and emission of flames and the temperature of the electric arc, 206.

Roster, G., lithobilic acid, 270.

— lithofellic acid and some lithofellates, 131.

— new method of determining the fusing points of organic substances, 419.

Rother, R., calcium phosphite, 5.

Rotondi, E., aeration of must, 931.

— ash of different parts of the vine, 133.

Rotondi, E., and A. Galimberti, action of various manures on the composition of the must, 507.

— composition of leaves of diseased vines, 416.

— composition of must at different stages of ripeness of the grape, 425.

Rotondi, E., and A. Ghizzoni, researches on the bleeding of vines, 133.

Rubner, M., absorption of various elementary materials in the human intestinal canal, 563.

— composition of curds, 934.

— nutritive value of fluid meat, 904.

Rudneff, W., amines containing tertiary radicles, 545.

— thiocarbimides with tertiary radicles, 548.

Rudörff, F., estimation of aqueous vapour in the atmosphere, 420.

Rudolph, C., action of ferric chloride on orthamidobenzene, 162.

— action of nascent hydrogen on orthonitrobenzaldehyde, 469.

Rücker, A. W., suggestion as to the constitution of chlorine offered by the dynamical theory of gases, 692.

Rügheimer. See Ladenburg.

S.

Saarbach, L., action of phenols on halogen-substituted fatty acids, 392.

Saare. See Weigelt.

Sabatier, P., thermochemical study of ammonium polysulphide and hydrogen persulphide, 690.

— thermochemical study of sulphides of the earth metals, 523.

— thermochemical study of the alkaline polysulphides, 689.

Sachs, F., sap-quotient of beet, 931.

Sadebeck, A., crystal-tectonic of silver, 613.

— two regular intergrowths of different minerals, 855.

Salethé. See Michler.

Salkowski, H., arsenates of zinc and cadmium, 216.

— parahydroxyphenylacetic acid, 252.

Salkowski, E. and H., putrefaction-products of albumin, 413.

Salomon, F., determination of the acid in sugar of lead and in lead vinegar, 189.

Salomon, G., hypoxanthine from albuminoid bodies, 897.

Samek, cacao rind as fodder for calves, 502.

Santos, J. R., volcanic ash from Cotopaxi, 97.

Sarauw, bromine derivatives of quinine, 385.

Sarrau and Vieille, researches on the decomposition of certain explosives, 780.

Sauer. See Staedel.

Saytzeff, A., constitution of the reduction product of succinic chloride, 712.

Scacchi, A., examination of the yellow incrustation on the Vesuvian lava of 1631; vesibium, 445.

Schäppi. See Lunge.

Schaffer. See Nencki.

Scharff, F., step-like and skeleton growth of some regular crystals, 529.

Scheibe. See Wurster.

Scheibler, C., occurrence of vanillin in certain kinds of raw beetroot sugar, 467.

Scheibler, C., and others, Scheibler's new process for the determination of sugar in beet, 587.

Schenk-Bauhof, proper thickness and depth to sow corn, 181.

Scherer. See Medicus.

Scheurer-Kestner, action of sulphuric acid on platinum, 706.

— digestive ferment produced during panification, 776.

Schiapparelli, C., and G. Peroni, some ingredients of normal urine, 907.

Schicht, L., electrolytic determination of metals, 747.

Schiff, H., colouring matters from furfuraldehyde, 391.

— constitution of ellagic acid, 43.

— determination of nitrogen, 679.

— digalic acid, 551.

— estimation of acetyl by means of magnesia, 67.

— formation of complex glucosides, 126.

Schiff, H., and F. Masino, the isomeric nitrosalicylic acid, 121.

Schiff, R., action of zinc chloride on bromo-camphor, 892.

— bromo-, nitro-, and amido-camphor, 891.

— constitution of bromo-camphor, 892.

— piperidine, 127.

Schiff, R., and S. Speciale, action of potassium cyanide on ammoniacal derivatives of chloral, 102.

Schirokoff, β -dipropyl- and β -diethyl-enelactic acid; oxidation of allyl-dimethyl carbinol and diallyl carbinol, 382.

Schischkoff, L., chemical composition of milk, 273.

Schlagenhauffen. See Oberlin.

Schleirmacher, A., condensation of a liquid at the wet surface of a solid, 363.

Schlickum, O., new alkalimetric method for estimating phosphoric acid, 824.

Schloessing, V., and A. Muntz, nitrification, 277.

Schmidt, A., digestion of albuminoïds, 484.

Schmidt, E., daturine, 481.

Schmidt, F., and others, determination of the fat in milk by the lactobutyrometer, 352.

Schmidt, G., relative space occupied by gases, 87.

Schmidt, H., preparation of glyceryl triacetate, 312.

Schmidt. See also Musso.

Schmitz, A., physiological influence of adulterated wine, 174.

Schnauss, T., silver bromide gelatin emulsion, 929.

Schneider, G. H., inversion of ordinary malic acid, 629.

Schneider, R., behaviour of bismuth containing arsenic towards nitric acid, and the preparation of basic bismuth nitrate free from arsenic, 219.

Schnorrenpfeil, F., results with stall feeding of sheep, 503.

Schobig. See Wurster.

Schöffel, R., estimation of chromium and tungsten in steel and in their alloys with iron, 288.

Schöne, E., action of potassium iodide on hydrogen peroxide, 606.

— composition of hydrated barium dioxide, 610.

— decomposition of hydrogen peroxide in presence of alkalis and alkaline earths, 606.

Schorlemmer, C., normal paraffins, 158.

Schrauf, A., feuerblende from Chañarcillo, 856.

Schreib, H., orthochlorobenzparatoluide and its derivatives, 557.

Schreiner, L., action of ethyl chlorocarbonate on amines, 311.

Schrodt, M., and P. du Roi, experiments with skimming by the Schwartz and Holstein systems, 934.

— — — whole milk butter compared with cream-butter, 932.

Schrodt. See also Weiske.

Schröder, H., molecular volumes of solid carbon compounds, 694.

— specific gravities of solid organic compounds, 21.

Schröder, J., amount of nitrogen in forest trees and in the under litter of leaves, 506.

— constitution of frozen beech-leaves, 416.

— course of the nitrogen and mineral constituents in the development of the early shoots, 335.

— injury to vegetation caused by acid gases, 496.

— mineral constituents of fir and birch, 343.

Schrötter, H., bases from fusel oil, 234.

Schubse, E., estimation of non-albuminoïd nitrogen in fodder, 588.

Schübeler, influence of continuous sunlight on plants, 911.

Schützenberger, P., silicon nitride, 153.

Schultz, A., antiseptic action of salicylic acid, 515.

Schultz, G., constitution of phenanthrene, 814.

Schultz, H. C. E., E. Wildt, and others, poisoning of sheep by lupines, 57.

Schultz. See also Levy.

Schultze, W., testing malt, 71.

Schulz, H. C., alkaloid of *Lupinus luteus*, 416.

Schulz. See H. Schulze.

Schulze, E., decomposition of albuminoïds in plants, 493.

— estimation of albuminoïds and non-albuminoïd nitrogen compounds in various kinds of fodder, 764.

Schulze, E., and J. Barbieri, decomposition of albuminoïds in pumpkin sprouts, 180.

— — — leucine and tyrosine in potatoes, 342.

— — — suint, 520.

Schulze, F., estimation of sugar-beet and the amount of sugar the roots contain, 586.

Schulze, H., lecture experiment, 366.

— oxidation of haloïd salts, 436.

Schulze, H., R. Frühling, and J. Schulz, quality of milk, 352.

Schulze, W., malt extract and maltose in beer-mash, 776.

— moisture in malting barley, 776.

Schulze. See also Wallach.

Schunck, E., chlorophyll from *Eucalyptus globulus*, 894.

Schunck, E., and H. Roemer, detection of alizarin, iso- and flavo-purpurin, and the estimation of alizarin, 424.

Schuster, A., spectra of metalloïds; spectrum of oxygen, 430.

Schutz. See Binz.

Schwarz, A. v., peaty soils, 182.

Schwarz, H., homofluoresceïn, a new colouring-matter from orcinol, 551.

Schwebel. See Philipp.

Schwerin-Putzar, manuring experiments with superphosphate and Chili salt-petre, 507.

Seegen, J., and F. Kratschmer, formation of sugar in the liver, 905.

— — — nature of the sugar in the liver, 866.

Seegen, J., and J. Nowak, gaseous nitrogen, a product of the decomposition of albuminoïds in the body, 272.

Seelheim, F., volatility of platinum in chlorine, 94.

Seidel, O., salts of plumbic acid, 94.

Selini, F., alkaloids from the decomposition of albumin, 898.

Sella, Q., crystalline form of Sardinian anglesite, 96.

Selmi, A., and others, lupine seeds as a manure, 507.

Semljanizin, allylmethylpropyl carbinol, 372.

Sendlner. See Wurster.

Sestini, F., estimation of albuminoïds in fodders, 190.

— — — physico-chemical analysis of clay soils, 511.

— — — saculmic acid and saculmin, 865.

— — — some neutral ammonium salts, citrate, phosphate, and photosantonate, 104.

— — — ulmic compounds formed from sugar by the action of acids, 538.

Setschenow, J., respiration under reduced pressures, 903.

Shull, D. F., *Erythroxylon coca*, 411.

Sieber, N., antiseptic action of acids, 72.

— — — supposed conversion of albumin into fat in the ripening of Roquefort cheese, 835.

Siebold, L., specific gravity of liquids, 61.

— — — testing drugs, 71.

Siedamgrotzky and V. Hofmeister, influence of lactic acid in fodder, 905.

Siemens, W., electric conductivity of carbon as affected by temperature, 837.

Siemenski. See Anschütz.

Siepermann. See Staedel.

Siewert, estimation of starch in potatoes, 512.

Silva, R. D., synthesis of diphenylpropane; new method of forming dibenzyl, 259.

Simon, S. E., combinations of lithium and magnesium chloride with alcohols, 310.

Simpson, M., action of acetic chloride on valeraldehyde, 459.

— — — compound of calcium iodide with silver iodide, 442.

— — — direct formation of the chlorobromides of the olefines and other unsaturated compounds, 456.

Singer, M., bleaching of jute, 200.

Sivers, M. v., nitrogen in turf, 344.

Sjögren, A., occurrence of manganese in Nordmark's mine, Wermland, 15.

Sjögren, H., bismuth minerals from Norberg's mine, Wermland, 14.

S kraup, Z. H., constitution of cinchonine and cinchonidine, 409.

— — — homocinchonidine, 270.

Sloan, B. E., rock salt from Saltville, 95.

Slocum, F. L., fruit of *Adansonia digitata*, 836.

Smith, E. C., magnetite, 95.

Smith, E. F., a new base, 387.

Smith, E. F., and G. R. Peirce, nitration of metachlorosalicylic acid, 392.

Smith, R. A., measurement of the actinism of the sun's rays and of daylight, 685.

— report on the treatment of sewage, 767.

Smith, W., synthesis of phenylnaphthalene, 125, 261.

Smorawski, S., fusion of rhamnetin with potash, 53.

Sommerkorn, H., determination of the specific gravity of liquids, 419.

— new method of taking the specific gravity of liquids, 743.

Soret, J. L., spectra of the earths of the yttria-group, 7.

Soret, J. L., and A. Rilliet, ultraviolet absorption spectra of ethereal salts of nitric and nitrous acids, 202.

Sorokin, W., constitution of diallyl, 370.

— formation of β -methoxyglutaric acid from diallylmethylcarbinol, 383.

Southby, E. R., examination of the effect of hard and soft water on the brewing of beer, 593.

Southworth, R. J., relation of the volumes of solutions of hydrated salts to their composition, 212.

Soxhlet, F., behaviour of various sugars with alkaline copper and mercury solutions, 758.

Soxhlet, F., and others, behaviour of various sugars with Fehling's solution, 65.

Soxhlet. See also Moser.

Soyka, J., rapidity of germ diffusion in the air, 515.

Speciale, S., the lavas of the volcanos of Ernici in the Valle del Sacco (Rome), 226.

Speciale. See also Schiff.

Speer, relation of the grasses of meadows and pastures, 498.

Spica, P., amines corresponding with α -toluic alcohol, 241.

— cumenesulphonic acid and a new cumol, 166.

— cymenesulphonic acids, 890.

— cumophenols, 882.

— process for simultaneously detecting nitrogen, sulphur, and chlorine in organic compounds, 348.

— *Satureja juliana*, 128.

— thymoglycolic acids, 888.

Spica. See also Paternò.

Spitzer, F. V., camphor chlorides, 717.

Spitzer. See also Kachler.

Spring, W., new basic salts of mercuric sulphide, 157.

— non-existence of pentathionic acid, 215, 367.

Staats, G., ortho- and para-toluidine derivatives, 386.

Staedel, W., vapour-tension of the halogen derivatives of ethane, 618.

Staedel, W., and G. Damm, bromonitro- and bromamido-anisole, 641.

Staedel, W., and F. Kleinschmidt, isoindole, 659.

Staedel, W., and E. Sauer, dioxybenzophenone, 646.

Staedel, W., and O. Siepermann, new synthesis of organic bases containing oxygen, 639.

Stammer, R., valuation of raw sugar, 520.

Stammer. See also Wichelhaus.

Staubesand. See Waldner.

Stebbins, F., some azo-derivatives, 389.

Stebbins, J. H., action of benzotrichloride on primary amines, 880.

— colouring matters produced by the action of diazo-compounds on phenols, 880.

— new azo-colours, 715.

Stecher, thirty-eighth year of a farm without stable manure, 741.

Stefan, J., diffusion of liquids, 364.

Stein, G., the acid of *Drosera intermedia*, 36.

Stevenson, A. F., resins contained in jalap, 717.

Stillman, J. M., ethereal oil from the Californian bay-tree, 670.

Stiutting, R., carbonic anhydride from muscle, 330.

Stock, W. F. K., behaviour of copper ammonium chloride with ferrous sulphide, 12.

Stöhr, A., chlorophyll in the epidermis of foliage of phanerogams, 910.

Stolba, F., volumetric determination of cerium, 749.

Storch, V., examination of Danish export cheese, 934.

Storer, F. H., and J. A. Henshaw, the shells of crabs, oysters, mussels, &c., as manure, 60.

Storer, F. H., and S. Lewis, calcium carbonate in water filtered through dry soil, 59.

Storer, J. H., fermentation theory of nitrification, 909.

Strecker. See Lippmann.

Strenz, A., mineralogical notes on the ores of Chafarcillo, North Chili, 301.

Stricker. See Wallach.

Stromeyer. See Hübner.

Strüver, J., polysynthetical twin-crystals of oriental spinelle, 14.

Stürtz, B., phosphorescence, 598.

Stüsser. See Claus.

Stumpf, M., influence of steaming on starch, 834.

Stutzer, A., protein compounds, 676.

Suida, W., action of oxalic acid on carbazol, 245.

Szymanski. See Bernthsen.

T.

Tacchini, presence of iron in the dust showers of Sicily and Italy, 709.

Tamm, A., gases from the Bessemer converters, 769.

Tanatar, S., maleic acid from dichloroacetic acid, 35.

— maleic and malic acids from α -dibromopropionic acid, 374.

— preparation of pure dioxyfumaric acid, 383.

— trioxymaleic acid, 875.

Tanret, C., alkaloids of the pomegranate, 481.

Tappeiner, H., oxidation of cholic acid, 55.

Tatarinoff, P., action of cyanamide on dimethylamine hydrochloride, 233.

Tatlock, R. R., nitric nitrogen in guano, 68.

Tattersall, T., tests for alkaloids, 763.

Tawildaroff, some reactions of acrolein and glycerol, 235.

Teclu, N., red antimony, 612.

Terreil, A., and A. Wolff, resin from rose-wood, 559.

Testa, A., action of potash on ethyl isochlorobutyrate, 870.

Testa. See also Balbiano.

Thaer, A., manuring experiments on wheat and rye, 508.

Thalén, R., bright-line spectrum of scandium, 685.

Than, C. v., action of phenol vapour on organic matter at high temperatures, 72.

— six lecture experiments, 212.

Thörner, W., new organic acid in *Agaricus integer*, 44.

— on the quinone occurring in *Agaricus atratomentosus*, 47.

Thörner, W., and T. Zincke, pinacones and pinacolins, 646.

Thompson. See Claisen and Rickman.

Thoms, G., analyses of feeding stuffs, 343.

— analysis of concretions taken from an abscess in the jawbone of a horse, 333.

— ash analyses, 343.

Thomson, G. C., decomposition of the substitution-products of the lower fatty acids by water, 379.

Thomsen, J., allotropic modifications of hydrogen, 89.

— constitution of isomeric hydrocarbons, 840.

— heat of combustion of sulphur, 785.

— heat of formation of ammonia, of the oxides of nitrogen, and of the nitrates, 603.

— heat of formation of cuprous chloride, 361.

— heat of formation of cyanogen, 361.

— on the carbonates, 361.

— thermochemical investigation of the oxides and acids of nitrogen, 81.

— thermochemical investigation of the theory of the carbon compounds, 785.

— thermochemical research on the carbonates, 82.

— thermochemical researches, 363.

— thermochemical researches on cyanogen and hydrocyanic acid, 840.

— thermochemistry of the oxides of nitrogen, 689.

Thresh, J. C., detection of bismuth, 752.

— determination of the alkaloids, 763.

— preparation of potassium bismuth iodide, 705.

— soluble essence of ginger, 359.

Tibiriça. See Merz.

Tieghem, P. v., gelatinous matter in beets, 908.

— the butyric ferment in the carboniferous period, 334.

Tiemann, F., and L. Friedländer, aromatic amido-acids, 473.

Tiemann, F., and C. Preusse, methods for indicating the presence of organic matter in water, 290.

— quantitative estimation of oxygen dissolved in water, 137.

Tiemann. See also Baumann.

Tollens. See Dieck and Grupe.

Tomlinson, C., supersaturated saline solutions, 438.

Tommasi, D., isomeric modification of aluminium hydrate, 849.

— non-existence of nascent hydrogen, 2.

— reduction of gold chloride by hydrogen in presence of platinum, 705.

Trachsel, E., extension of Dietrich's table for the calculation of nitrogen, 346.

Tribe. See Gladstone.

Trippé, P., note on the Silesian basalts and their mineral constituents, 19.

Troost, L., density of iodine vapour, 695.

Troost. See also Deville.

Tschaplowitz, F., determination of dry substances by the use of alcohol, 351.

— ripening of apples after gathering, 179.

Tschelzaff, determination of nitrogen in explosive ethereal nitrates, 355.

Tschermak, G., the meteorite of Grosnaja, 20.

— the micas, 532.

Tscherniak, J., spontaneous decomposition of dichlorethylamine, 311.

Tschirwinsky, N., influence of glycerol on the decomposition of proteids in the animal body, 817.

Tugolessoff, the hydrocarbon $C_{10}H_{16}$ from diamylene, 231.

U.

Ulbricht, R., must and wine analysis, 586.

— Parkes' method of estimating copper, 510.

— seeds of the corn-cockle as fodder and as distillery material, 501.

Ullik, F., application of natural products as manures, 417.

Urech, F., action of certain reagents on paraisobutaldehyde, 103.

— action of potassium carbonate on isobutaldehyde, 103.

— action of potassium carbonate on isobutyl alcohol, 538.

— polymerides of isobutaldehyde, 104.

— reactions of acetone with potassium cyanide, thiocyanate, and aqueous hydrochloric acid, 545.

— vapour-density of the viscous polymeride of isobutaldehyde, 620.

V.

Vander Ploeg, B. J., calcium oxalate in plants, 914.

Vangel, B., action of dehydrating substances on organic acids, 459.

Varenne, L., passive state of iron, 211.

Vautelet, E., disinfection and preservation of animal matters, such as blood, for agricultural purposes, 929.

Venable, F. P., livingstonite, 95.

— mutual relations of potassium and sodium alums in aqueous solutions, 83.

— tungsten manganese bronze, 199.

Verneuil and Bourgeois, artificial production of scorodite, 613.

Vesque, J., influence of salts on the absorption of water by roots, 911.

Vibrans, O., manuring of beetroot, 137.

Vieille. See Sarrau.

Vieth, P., estimation of fat in milk, 761.

Vieth. See also Fleischmann.

Vignan, L., and J. B. Boasson, two new dye-stuffs, 717.

Villiers, A., crystallised oxalic acid, 544.

— etherification of hydroëdic and hydrochloric acids, 711.

— etherification of sulphuric acid, 796.

— preparation of neutral ethyl sulphate, 797.

Vilmorin, L., cultivation of beetroot, 821.

Vincent, C., calcination of beetroot molasses, 233.

Vincent, C., and Delachanal, combination of allyl alcohol with baryta, 794.

— — — some properties of mixtures of methyl cyanide with ethyl and methyl alcohols, 524.

Vines, S. H., chemical composition of aleurone-grains, 483.

Violle, J., specific heats and melting points of the refractory metals, 149.

Vitali, D., on blood stains, 926.

Voelcker, A., analyses of manures and of cattle foods, 678.

— bat-guano from various sources, 345.

— comparative value of soluble and insoluble phosphates, 678.

— four-yearly rotation of crops, 185.

Voeltzkow. See Liebermann.

Vogel, H., analysis of milk, 828.

Vogel, H. W., new hydrogen lines, and the dissociation of calcium, 597.

— photochemical behaviour of silver bromide in presence of gelatin, 837.

Volhard, J., estimation and separation of manganese, 141.

Volta, A., action of ozone on some noble metals, 205.

Vorster, F., preparation of phosphorite, 356.
 Vortmann, G., detection and estimation of chlorine in presence of iodine and bromine, 509.
 Vrij, J. E. de, the form in which the cinchona alkaloids occur in the bark, 898.
 Vulpius, detection of paralbumin, 829.

W.

Wachtel, A. v., adulteration of bone meal with phosphorite, 516.
 — gypsum in the manufacture of sugar, 834.
 — *Sorghum saccharatum*, 932.
 Wachter. See Nessler.
 Wagner, A., formation of nitric oxide by ignition of nitre, 574.
 — reduction of carbonic anhydride to carbonic oxide by red-hot stannous oxide, 574.
 Wagner, P., beetroot, 495.
 — estimation of fat in fodder, 762.
 — influence of the physical condition of superphosphate on its value, 60.
 Wagner, P., and G. Drechsler, manuring experiments, 922.
 Wagner, P., and W. Rohn, experiments on the manuring of barley, 135.
 — — — on the quantities of acid and sugar in grapes cut at various stages of their growth, 179.
 — — — potato culture, 919.
 Wagner, R., estimation of proteins in fodder, 588.
 — deposphorisation of pig-iron, 593.
 Wagner. See also Emmerling.
 Waldner and Staubesand, manuring experiments on moorland, 923.
 Wallach, O., dichloracrylic acid, 799.
 — — — remarks on the preceding papers, 548.
 — — — thiamides, 556.
 Wallach, O., and L. Belli, conversion of azoxybenzene into oxyazobenzene, 556.
 Wallach, O., and I. Kamenski, formation of bases from acid amides, 547.
 Wallach, O., and A. Liebmann, action of alcohols and phenols on amide chlorides, 557.
 Wallach, C., and E. Schulze, bases of the oxalic acid series, 547.
 Wallach, O., and G. Stricker, oxal ethylene and chloroxalallyline, 546.

Wallace, W., a peculiar water, 591.
 — condition in which sulphur exists in coal, 708.
 — — — heating powers of coal-gas of different qualities, 766.
 Wallin. See Claesson.
 Walton. See Mills.
 Wanklyn, J. A., and W. J. Cooper, products of the oxidation of wool: cyanopropionic acid, 460.
 Wartha, V., analysis of wine, 680.
 — — — method for determining the temporary hardness of water, 923.
 Weber, C. A., energy of assimilation in plants, 910.
 Weber, R., analyses of soils from the Bunter sandstone formation, 281.
 Weddige, A., ethylene derivatives of phenyl and salicylic acid, 316.
 Weidel, H., compounds from animal tar, 267.
 Weidel, H., and G. L. Ciamician, compounds in animal tar, 403.
 Weigelt, C., injury to fishes by waste liquids, 490.
 — — — influence of varying pressures on grape must and wine, 358.
 — — — picking of grapes, 517.
 Weigelt, C., and O. Saare, clearing action of Spanish earth, 517.
 — — — time of first drawing of wine, 517.
 Weigert, L., detection of salicylic acid in wine and in fruit juices, 352.
 Wein, E., condensed milk, 926.
 — — — cultivation of the yellow lupine, 736.
 — — — superphosphate from pure tricalcium phosphate, 141.
 Wein, E., L. Rösch, and J. Lehmann, analysis of superphosphates, 140.
 Wein. See also Maercker.
 Weisbach, A., sulphides of silver, 14.
 Weiske, H., assimilation in sheep of various ages, 724.
 — — — digestive power of geese for fibrin, 330.
 — — — influence of shearing on yield of milk, 487.
 Weiske, H., and others, composition of red clover and maize, 499.
 — — — digestibility and nutritive power of caroba beans, 563.
 — — — digestibility and nutritive value of acorns, 820.
 — — — digestibility and nutritive value of the soja bean, 501.
 — — — nutritive value of asparagine, 330, 485.
 — — — spent hops as fodder, 502.
 Weiske, H. M. Schrottdt, and B.

Dehmel, influence of fodder on the quantity and quality of milk fat, 184.

Weith. See Merz.

Werkowitsch, C., and v. Klenze, taking samples of milk, 828.

Werner, H., vaseline, 930.

Wernich, effect of putrefactive changes on bacteria, 726.

Westmoreland, W., estimation of carbon in steel, 751.

Wetzig, B., recent improvements in the iodine industry, 195.

Weyl, T., and B. v. Anrep, formation of hippuric acid in the animal organism during fever, 716.

— carbonyl-haemoglobin, 816.

Weyl, T., and Bischoff, gluten, 482.

White. See Jackson.

Whitney, H. C., apiol, 412.

Wichelhaus, H., formula of quinhydrone, 41.

Wichelhaus, H., K. Eisfeld, and K. Stammer, experiments with Scheibler's method of analysing raw sugar, 144.

Widmann, O., action of chlorine on chloronaphthalene; nitro-derivatives of α - and β -dichloronaphthalene, 47.

— action of chlorine on naphthalene α -sulphonic chloride; λ -trichloronaphthalene, 167.

— dichloronaphthalene- α -sulphonic acid, 168.

— metatoluidine, 635.

Wiebe, H. F., absolute expansion of liquid and solid bodies, 88.

— expansion and molecular volumes of liquid organic compounds, 784.

— specific heat and expansion of the solid elements, 783.

Wiedemann, E., phosphorescence produced by electrical discharges, 204.

Wigner, G. W., analysis of various tinned foods, 594.

— coefficient of expansion of butter, lard, fats, &c., 70.

— determination of carbonic acid in carbonates, 346.

— Koetteterfer's process for butter analysis, 69.

Wigner, G. W., and A. Church, analysis of two ancient samples of butter, 357.

Wildt, E., methods proposed for cleansing lupines, 820.

Wildt, E., and others, *Symphytum aspernum* as a fodder, 735.

Wildt. See also Schultz.

Wiley, H. W., detection of hydrochloric acid by sulphuric acid and potassium dichromate, 744.

Will, H., and A. Laubenheimer, the glucoside from white mustard seed, 265.

Willgerodt, C., α -dinitrophenyl ether, 642.

Willm, E., composition of the waters of Cransac (Aveyron), 454.

— ferruginous and nitrated mineral waters, 617.

— mineral waters of Bussang (Vosges), 455.

Willm, T., estimation of chromium, 188.

— chemistry of the platinum metals, 854.

Willotte, H., law of Dulong and Petit applied to perfect gases, 83.

Wimmel. See Claus.

Winkel, experiments on churning, 75.

Winkelmann, A., relations between the pressures, temperatures, and densities of saturated vapours, 692.

Winogradoff, W., action of aluminium chloride on acetic chloride, 236.

Wischnegradsky, collidine from aldehyde, 54.

Wischnegradsky, A., some derivatives of cinchonine, 269.

Wittelshöfer, P., analysis of materials used for fodder, 183.

Wittich. See Birnbau.

Witz, A., a new air thermometer, 783.

Wöhler, F., an aluminium battery, 838.

Wolff, E. v., beet-sugar refuse as manure, 742.

— fattening animals, 173.

Wolff, E. v., W. v. Funke, and G. Dittmann, feeding experiments with pigs, 415.

Wolff, E. v., and others, assimilation of ordinary horse fodder, 173.

— — digestibility of oatstraw, hay, and pea-haulms, 916.

— — digestion in sheep, 484.

— — digestion of food by the horse when at work, 414.

— — feeding experiments on swine, 724.

— — nutritive value of grass at various stages of growth, 329.

Wolff, J., aniline blacks, 76.

— separation of fats from soaps, 587.

— transferring Lightfoot-black from one fibre to another, 75.

Wolff. See also Terreil.

Wolffhügel, G., amount of carbonic anhydride in shingle, 181.

Wolfram, G., preparation of perbromic acid, 91.

Wollny, E., estimation of the value of grain, 594.
 — fallowing, 736.
 — grass mowing, 498.
 — influence of shade on the amount of carbonic anhydride in the air of the soil, 823.
 — result of drying seeds, 493.
 Wollny, E., and others, damage to pea and bean seeds by weevil, 919.
 Wortmann, J., intramolecular respiration of plants, 911.
 Wright, C. R. A., and E. H. Rennie, determination of chemical affinity in terms of electromotive force, 686.
 Wróblewsky, separation of orthoxylene from its isomerides, 240.
 Wüst, comparison of various milk coolers, 357.
 Wurm, E., formation of vinegar by bacteria, 334.
 Wurster, C., colouring matters obtained by the oxidation of di- and tetra - methylparaphenylenediamine, 111.
 Wurster, C., and A. Beran, action of nitric acid on tribromobenzene, 106.
 — — — parabromodimethylaniline, 108.
 Wurster, C., and H. F. Morley, tetramethylmetaphenylenediamine, 111.
 Wurster, C., and C. Riedel, dimethylmetatoluidine derivatives, 109.
 Wurster, C., and L. Roser, ferro- and ferricyanides of certain tertiary bases, 98.
 Wurster, C., and A. Scheibe, bromodimethylaniline, 107.
 Wurster, C., and E. Schobig, action of oxidising agents on tetramethylparaphenylenediamine, 111.
 Wurster, C., and R. Sendtner, dimethylparaphenylenediamine derivatives, 110.
 Wurtz, A., copper hydride, 299.
 — heat of formation of chloral hydrate, 293, 604.
 — reply to Berthelot on the heat of formation of chloral hydrate, 435.
 — temperature of the decomposition of vapours, 293.
 Wyrouboff, G., note on platinum thiocyanate, 618.

Y.

Young, W. C., oxidation of sulphur in gas on combustion, 355.

Z.

Zander, O., amidobenzene disulphonic acids, 122.
 Zecchini. See Cossa.
 Zetter. See Merz.
 Ziegler, J., some compounds of the leuco-base from cuminol and dimethyl-aniline, 640.
 Ziegler, A., and W. Kelbe, synthesis of metisopropyltoluene, 877.
 Ziegler. See also Fischer.
 Zimmermann, C., separation of the heavy metals of the ammonium sulphide group, 188.
 Zimmermann, J., phenylbetaïne or dimethylphenylglycol, 162.
 Zincke, T., action of ammonia and amines on quinones, 48.
 — — — compounds of the hydrobenzoïn and stilbene series, 114.
 — — — physical isomerism with special reference to hydro- and isohydro-benzoïn, 118.
 Zincke. See also Breuer and Thorner.
 Zoébl, A., sulphurous acid as a remedy for bunt in wheat, 572.
 Zöller, P., globulin-substance in potatoes, 722.
 — — — xanthic acid as a precipitant for albumin, 765.
 Zorn, W., new method of forming hyponitrites and hydroxylamine, 4.
 Zublin. See Meyer.
 Zukowski, C., and G. Renner, composition of diastase and beet mucilage, 561.
 Zukowski, K., action of glycerol on starch, 865.
 — — — modification of Dumas' method for estimating nitrogen, 753.